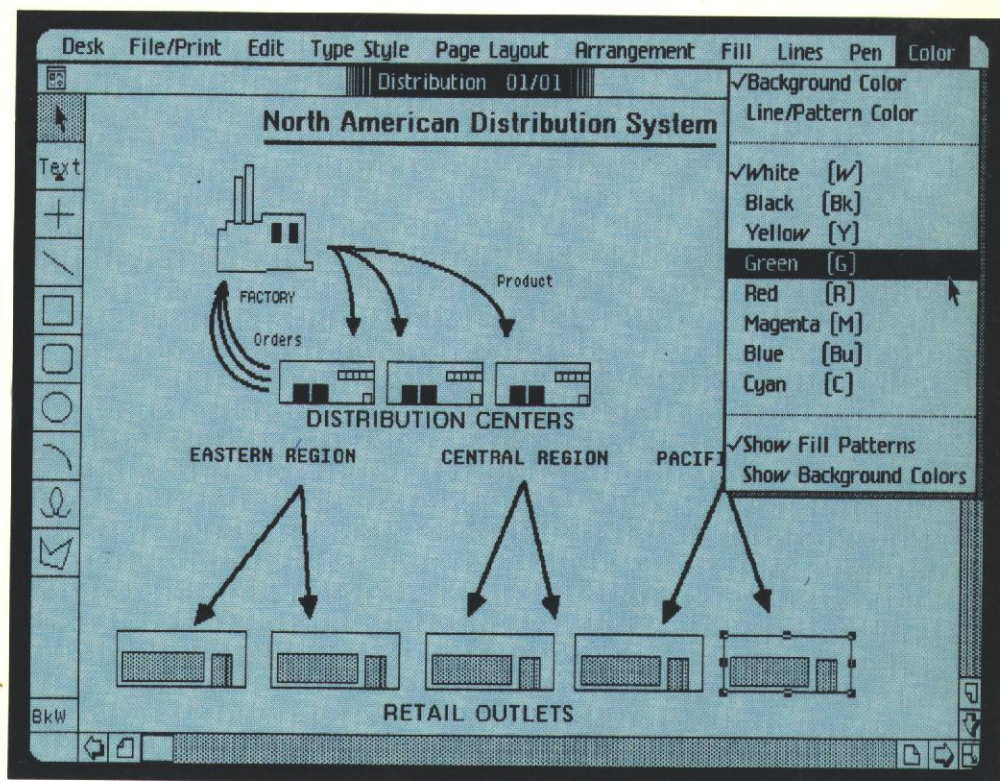




LisaDraw



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LisaDraw

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Introducing LisaDraw

About This Manual

LisaDraw is a complete graphics tool that helps you create and revise all types of graphics. Even if you have no graphic or computer training, you can create diagrams, flowcharts, freehand drawings, logos, organization charts, floor plans and maps drawn to scale, geometric figures, graphs, and much more.

You choose the basic lines and shapes you want to draw from a palette, and then use the mouse as you would a pen or pencil to fill in areas on your drawing paper. Straight lines, basic geometric shapes, a freehand symbol, and a text symbol on the palette let you create the effect you want.

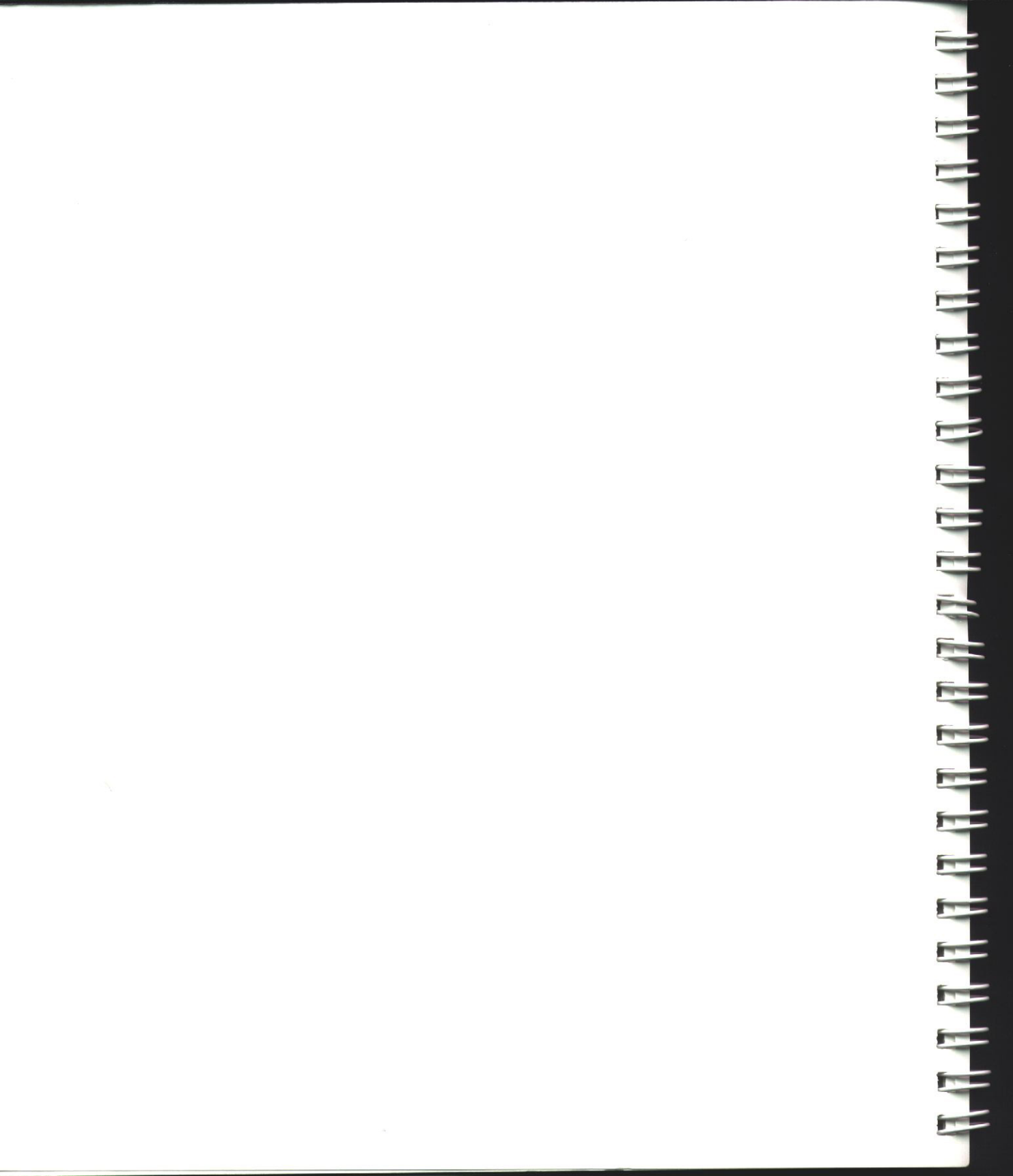
The figures in your drawings can be customized for special effects. The LisaDraw menus provide you with many choices, including the ability to fill objects with shading, thicken lines and borders, and print in multiple colors.

This manual contains three chapters:

- Chapter 1, Learning LisaDraw, gives you practice using LisaDraw by taking you step by step through an easy example.
- Chapter 2, Using LisaDraw, contains detailed instructions for performing specific tasks on LisaDraw and offers suggestions that help you use LisaDraw efficiently and effectively.
- Chapter 3, LisaDraw Reference, gives details on how each LisaDraw feature works.

Each chapter begins with its own table of contents so you can look up different topics easily. If you can't find what you need in the table of contents, check the Index, which lists many topics under different names and actions.

The information in this manual assumes you've gone through LisaGuide, which teaches you how to use the mouse and explains special terms, such as *selecting* and *choosing*, that are unique to the Lisa system. For instructions on starting LisaGuide, refer to the *Lisa Office System* manual.



Chapter 1

Learning LisaDraw

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Getting Started with LisaDraw

This chapter gives you actual practice with LisaDraw. By going step by step through an easy example, you will quickly become familiar with the basic skills for using LisaDraw to create, revise, save, and print your own documents.

If you've already used another Lisa tool, you'll see many similarities in LisaDraw; the basic concepts for using each Lisa tool are the same.

Have You Gone through LisaGuide?

The Lisa Office System comes with a micro diskette called LisaGuide, which provides a self-paced tutorial on use of the Lisa desktop and the mouse. Before beginning the practice exercises given here, be sure you've gone through LisaGuide.

You should now feel comfortable with the special terms used in reference to the Lisa. For example, do you fully understand the special processes called *selecting* and *choosing*? If not, now is a good time to review LisaGuide once more. Refer to Chapter 1, LisaGuide, in the *Lisa Office System* manual for instructions on starting the LisaGuide micro diskette.

What You Need to Get Started

To do the practice exercises in this chapter, you'll need

- A Lisa set up and plugged in, with the keyboard and mouse attached. Make sure the Lisa is turned on.
- A printer set up and plugged in if you want to print your practice charts. Make sure your printer is hooked up to the Lisa and turned on. Printing is optional.
- About 30 minutes.

If your system is not already set up, refer to Appendix 1, Setup Procedures, in the *Lisa 2 Owner's Guide*.

Seeing What's on a Disk

To get at the LisaDraw examples you'll work with, you first need to open the Disk icon as described in the steps below. The way you'll open the Disk icon illustrates your Lisa's most general principles:

- First you select something.
- Then you do something to what you've selected.

To Open the Disk Icon:

- 1 ▶ Select (highlight) the Disk icon by placing the tip of the pointer on the icon and clicking the mouse button, as shown. (Icon not highlighted? Try again.)



Click on disk to select.

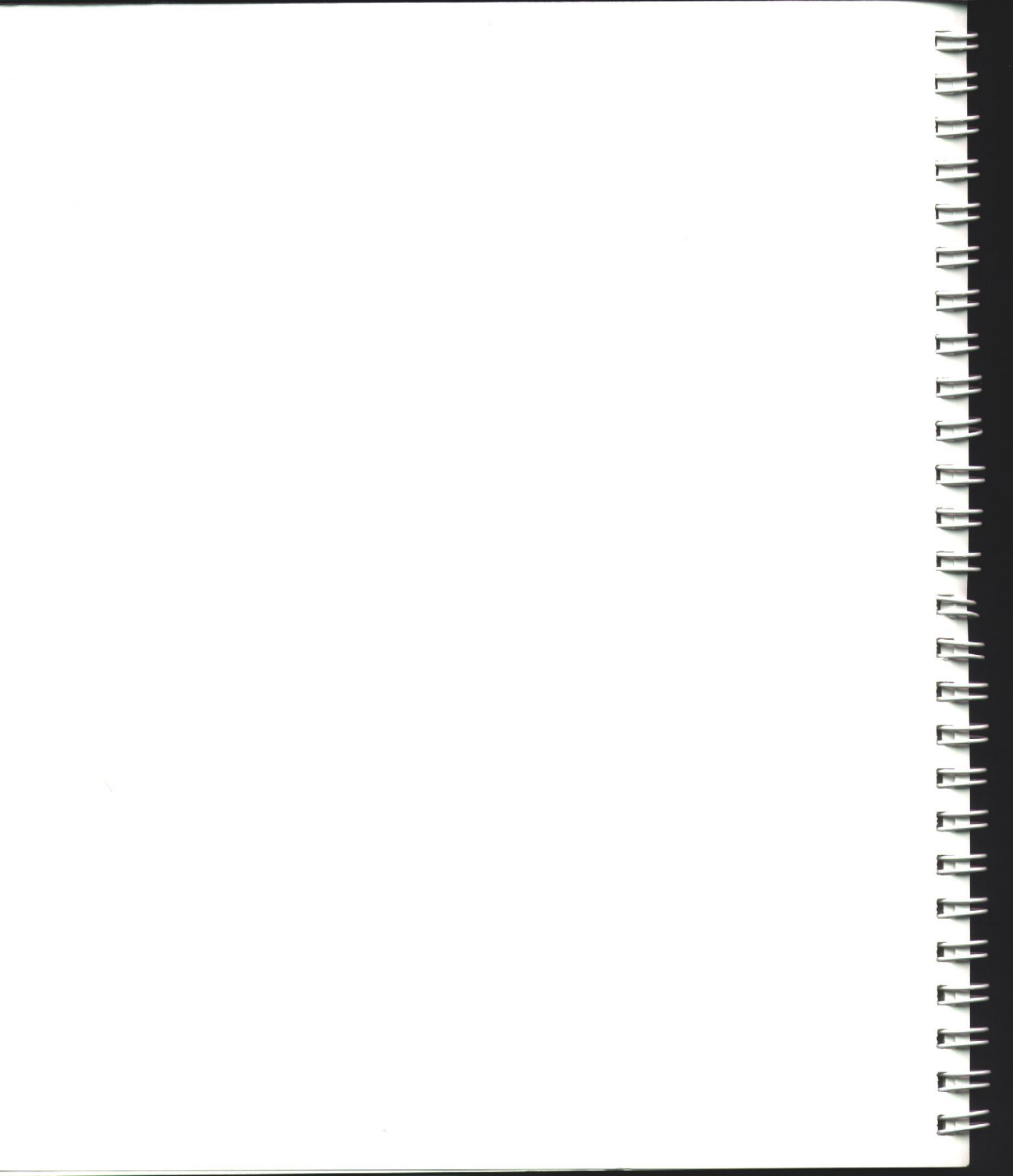
- 2 ▶ To open the selected Disk icon, open the **File/Print** menu and choose **Open "Disk"**.

Here's how

- a. Press and hold down the mouse button, with the pointer's tip on **File/Print** in the menu bar.
- b. Move the pointer down and release when **Open "Disk"** is highlighted. (Is the **Open** menu item dim? You probably clicked somewhere else on the gray part of the screen and deselected the Disk icon. Go back to step 1 and make sure the Disk icon is selected.)



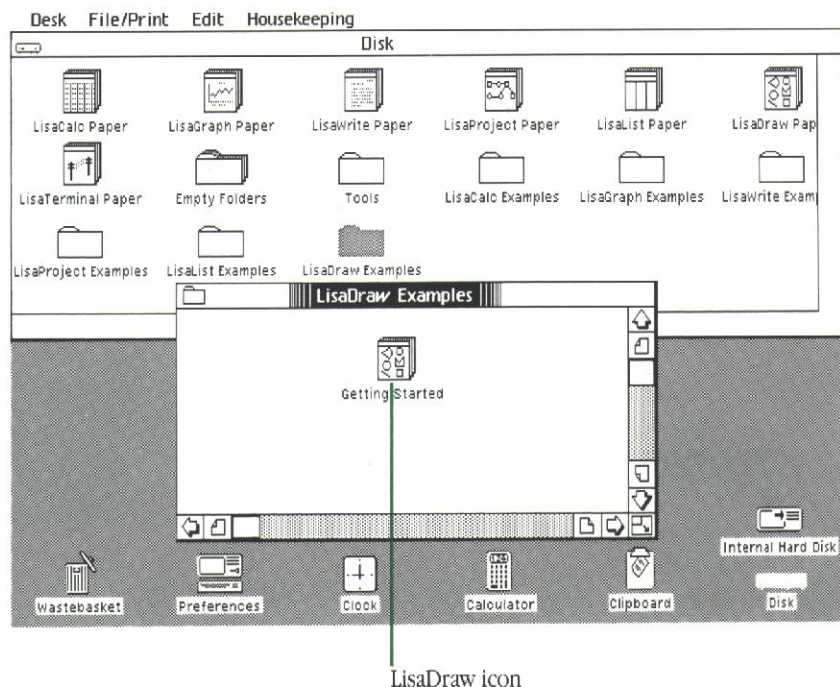
Note: When a menu item is dim, you can't choose it.



**To Open the
LisaDraw Examples
Folder:**

- 1▶ Select the LisaDraw Examples folder by clicking on it.
- 2▶ Open the **File/Print** menu and choose **Open "LisaDraw Examples"**.

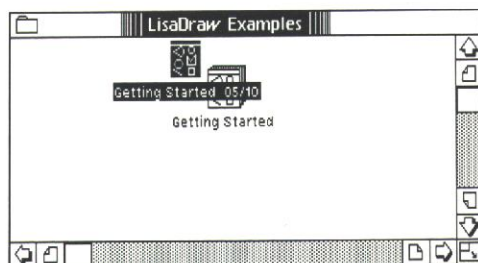
Notice the window from the LisaDraw Examples folder that zooms open, and its contents, as shown. The *drawing* pattern on the icon in the folder it is a LisaDraw icon.



Copies of the Getting Started example are on the Getting Started stationery pad.

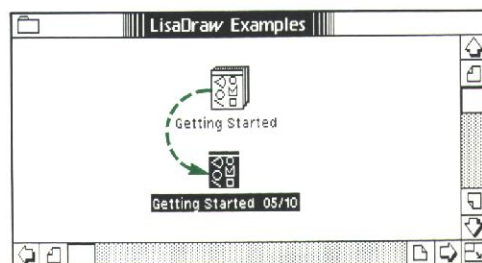
**To Tear Off a Sheet
from the Pad:**

- 1 ► Select the Getting Started pad icon.
- 2 ► Open the **File/Print** menu and choose **Tear Off Stationery**. Wait a moment until the new document appears, in the form of a new icon.



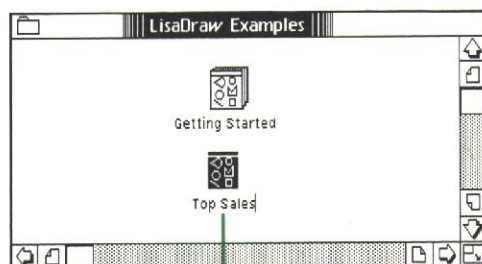
**To Move the New
Icon out of the Way,
to a Clear Spot in
the Folder:**

- 1 ► Place the pointer on the icon.
- 2 ► Press and hold down the mouse button and move the icon as shown; then release the mouse button.



To Rename the New Document:

- 1 ▶ Make sure the new document icon is still selected (highlighted). If you've deselected the icon by clicking elsewhere on the screen, select it again by clicking on it.
- 2 ▶ Type the name *Top Sales*. (Typing mistake? Use the Backspace key to correct it.)

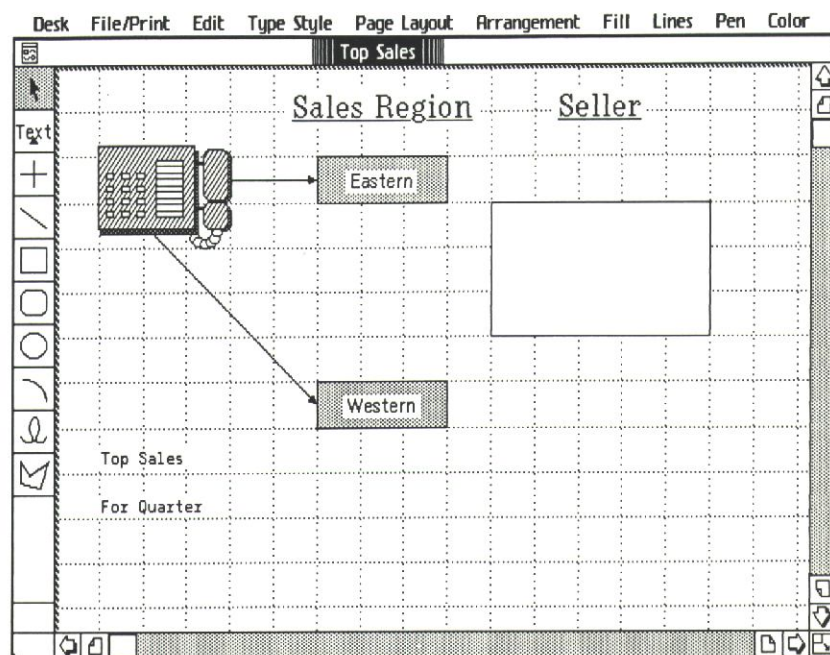


Type *Top Sales*.

To Open the Top Sales Document:

- 1 ▶ Make sure the document icon is selected (highlighted).
- 2 ▶ Open the File/Print menu and choose Open "Top Sales".

Notice how the icon zooms open into a window.



The LisaDraw Document

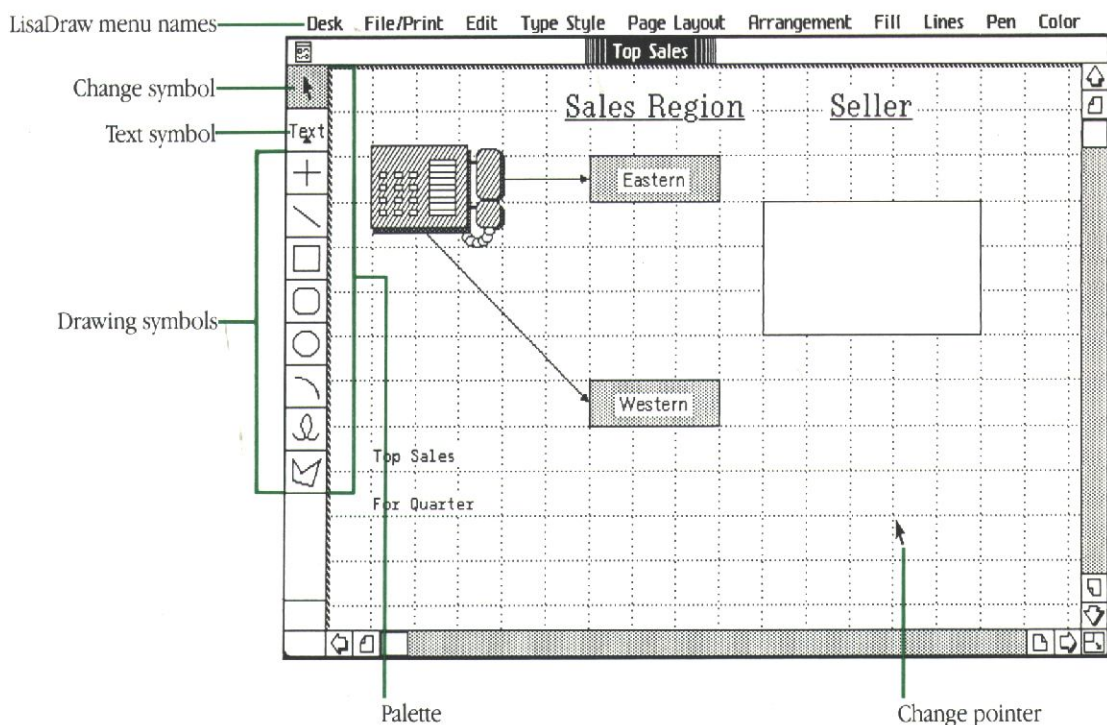
The Top Sales document is now open on your Lisa's desktop.

Across the menu bar at the top of the screen are the LisaDraw *menu names*. Each menu contains a list of actions you can take with a LisaDraw document.

Along the left side of the LisaDraw document is a column of symbols called the *palette*, like an artist's palette. You use the palette to draw, add text, and edit (revise) different objects in the drawing area. Notice the shading around the top symbol in the palette, the *change symbol*. The shading indicates that the change symbol is activated.

Without pressing the mouse button, move the pointer around the screen and notice that it is shaped like an arrow pointer, . In LisaDraw, the pointer is called the *change pointer* because it appears when the palette's change symbol is activated, and allows you to edit, or change, drawings and text in your chart.

You will see two other kinds of pointers as you go through Getting Started with LisaDraw. When the palette's text symbol is activated, the shape of the pointer changes to a *text pointer*, , and when a drawing symbol is activated, the shape of the pointer changes to a *drawing pointer*, .



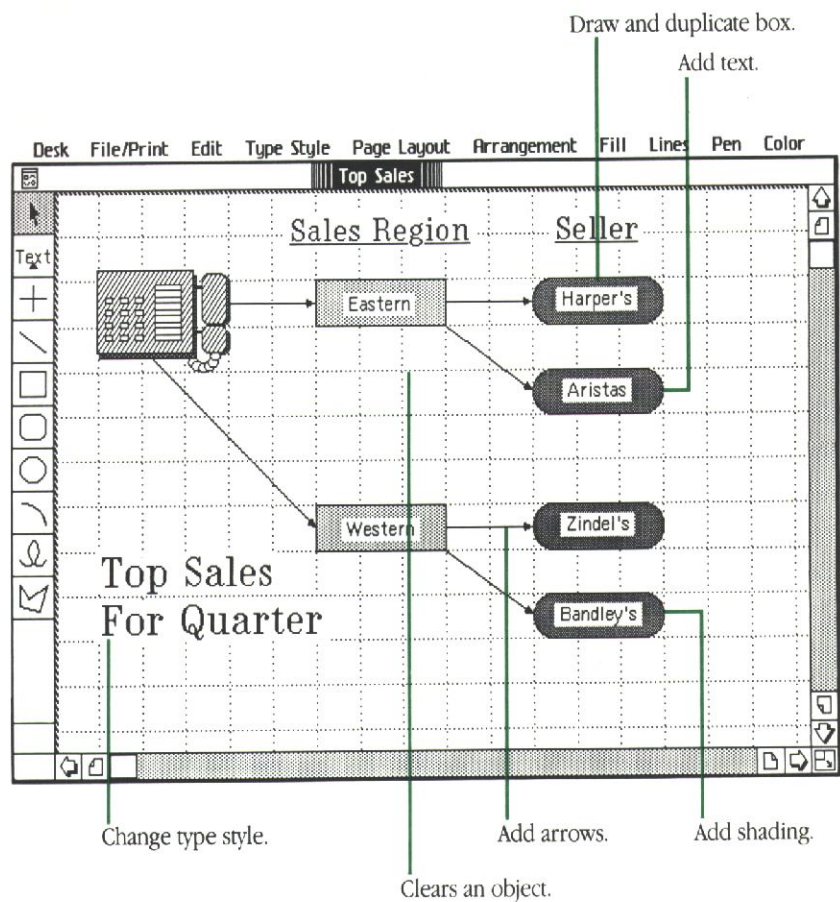
Practicing with LisaDraw

Imagine you work for a fictional company called Switch-On Communications, Inc. You want to finish drawing a chart showing last quarter's top sellers from the Eastern and Western regions in time for a meeting later in the day.

In the next several pages you will learn to

- Clear an unwanted object from the drawing.
- Draw a box, duplicate it, and then move the duplicate boxes into place on the drawing.
- Add text to the drawing.
- Add arrows to the drawing.
- Add shading to boxes on the drawing.
- Change the type style of the drawing's title.

When you have finished, your drawing will look like the one below.
Compare it with the one now on your screen.



Clearing an Object from the Drawing

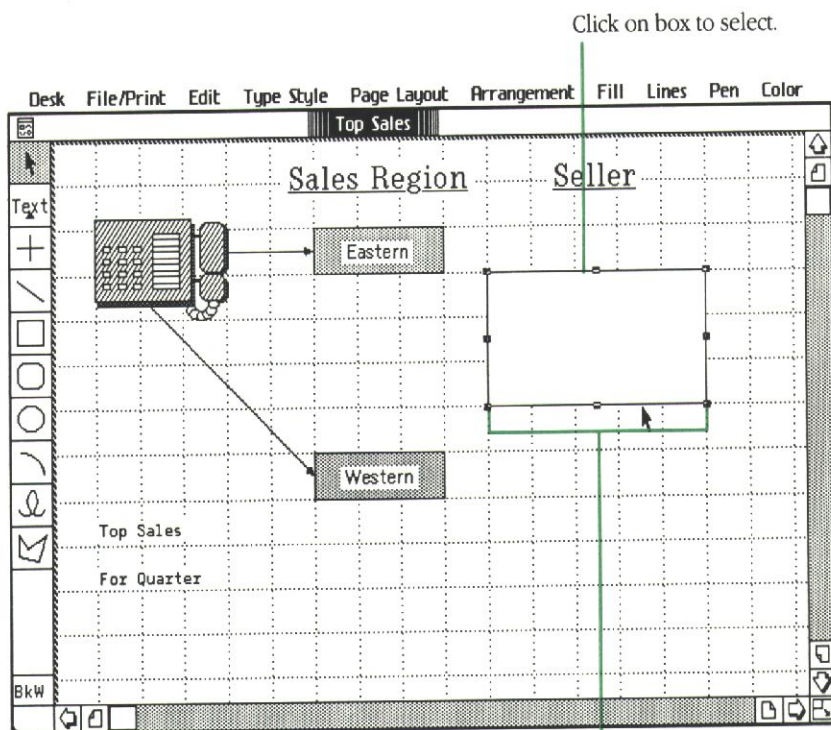
The drawing now contains a large, empty box. Follow the steps.

- 1 ► Use the change pointer, , to select the large box to the right of the drawing, as shown.

Here's how

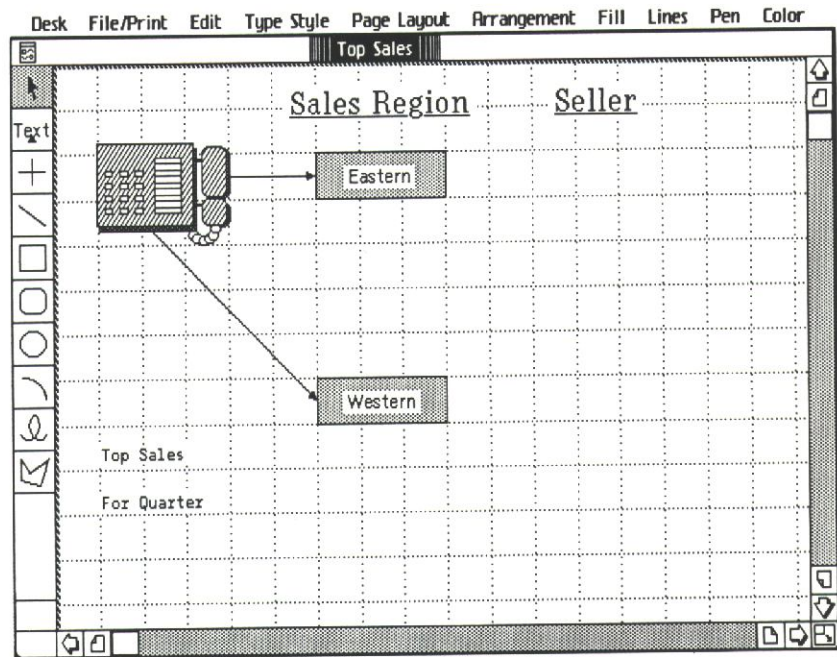
- a. Place the tip of the pointer on the box.
- b. Hold the pointer still, and click the mouse button.

Notice the small black squares, called handles, around the box; they show that it's selected.



- 2► Open the **Edit** menu and choose **Clear**.

Notice that the box disappears. If at any time you draw something you don't like, you can follow this procedure to clear it from the drawing area.

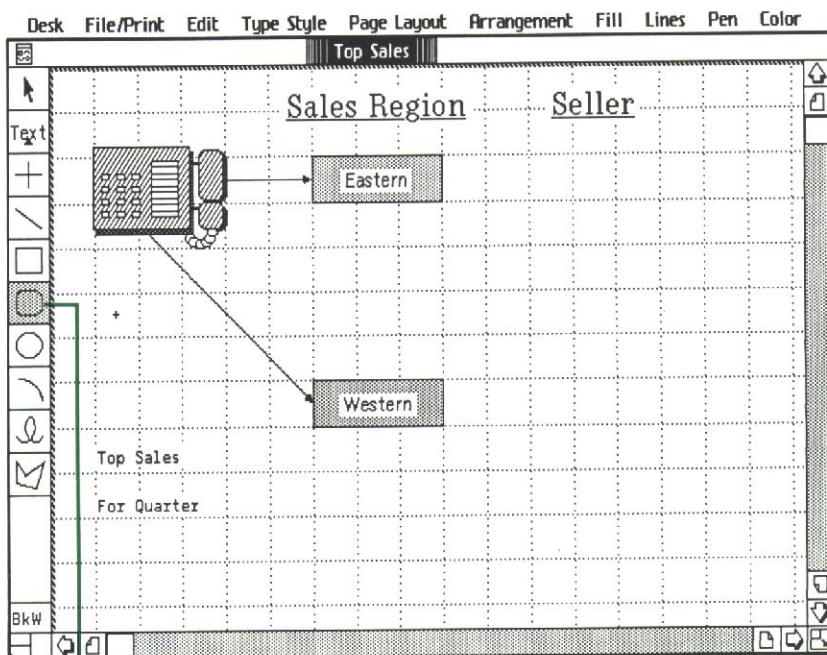


Drawing an Object

Follow the steps below to draw a round-cornered box under the Seller column of the chart.

- 1► Activate the round-cornered box symbol in the palette, as shown.
(Place the pointer on the palette symbol and click.)

Notice the shading around the palette symbol, showing that it's activated, and how the pointer changes to a drawing pointer, +, when you move it back into the drawing area.

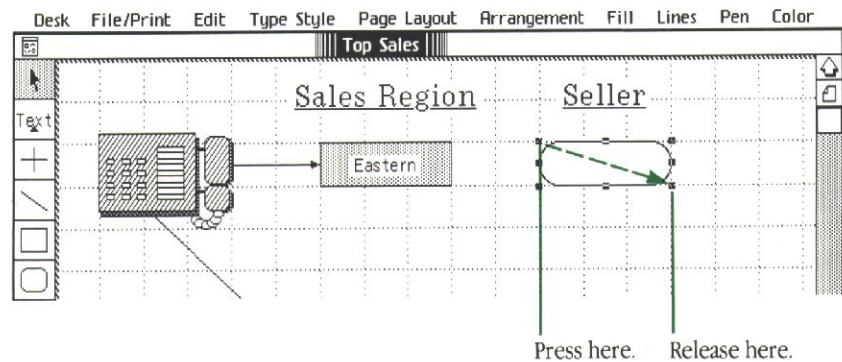


Click here to activate.

- 2► Draw a round-cornered rectangle, one square high and three squares wide, two squares to the right of the Eastern box, as shown.
Here's how
 - a. Place the drawing pointer where you want the upper-left corner of the new box.
 - b. Hold down the mouse button; as you move the drawing pointer down and to the right, a box appears.

- c. Release the button when the box is the size shown below. (Box not the right size, or not in the right spot? Clear it and go back to step 1 to try again.)

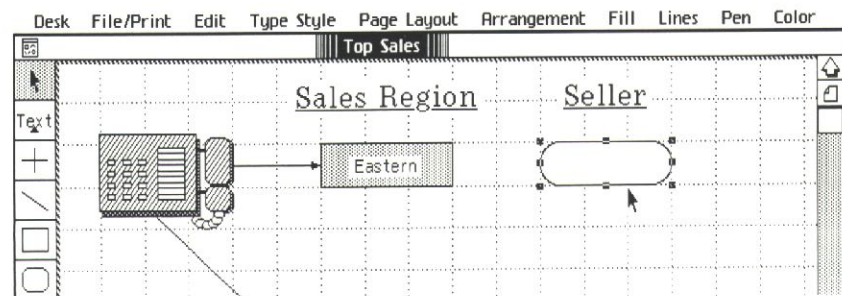
Notice that two things happen anytime you draw something. Handles appear around the drawing, showing that it's selected, and the palette's change symbol is automatically activated, as can be seen by the appearance of the change pointer in the drawing area.



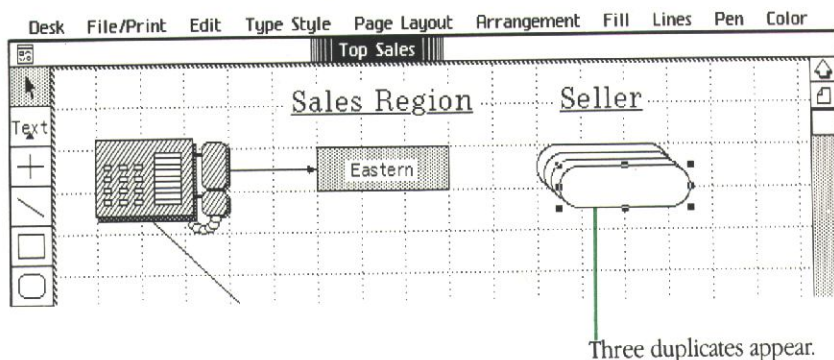
Duplicating an Object

You need three more boxes like the one you've just drawn. Instead of drawing new boxes, duplicate the one you have, as described in the steps below.

- 1 ► Make sure the box you just drew is still selected—that there are handles around it. If you've clicked somewhere else on the drawing and deselected the box, click on the box to select it again.



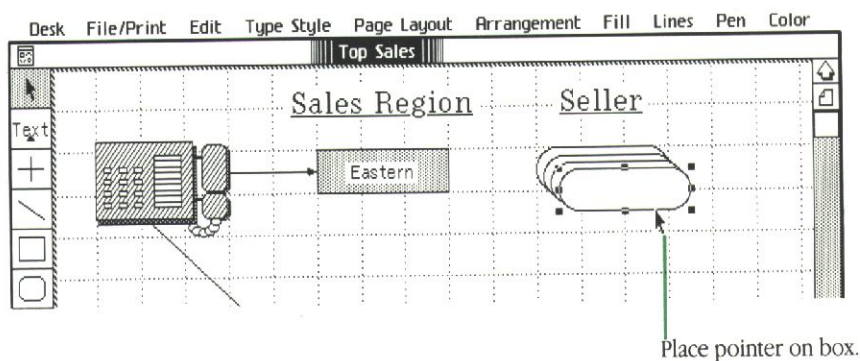
- 2 ► Open the **Edit** menu and choose **Duplicate**. Do this three times, so you have three more boxes, as shown.

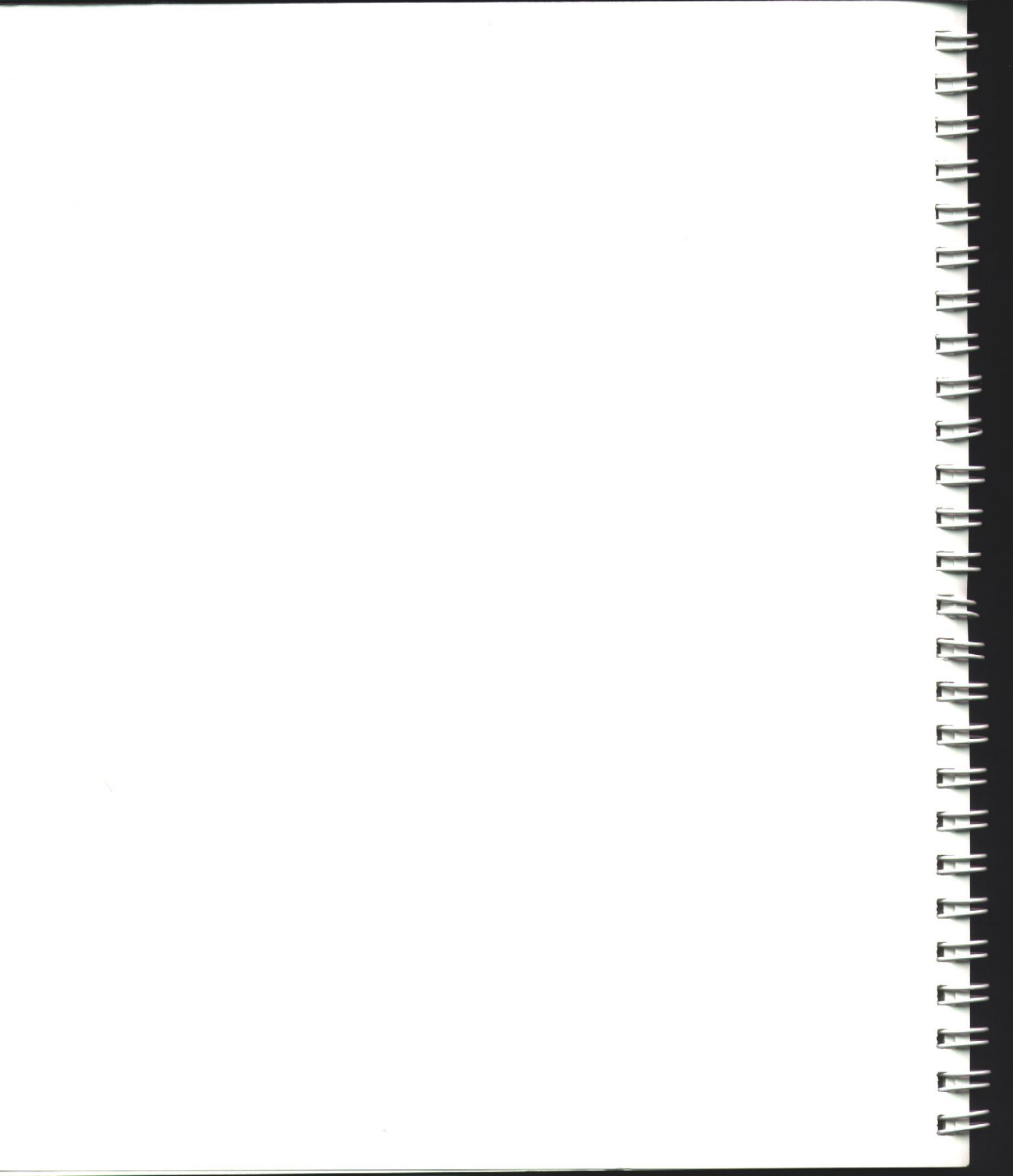


Moving an Object

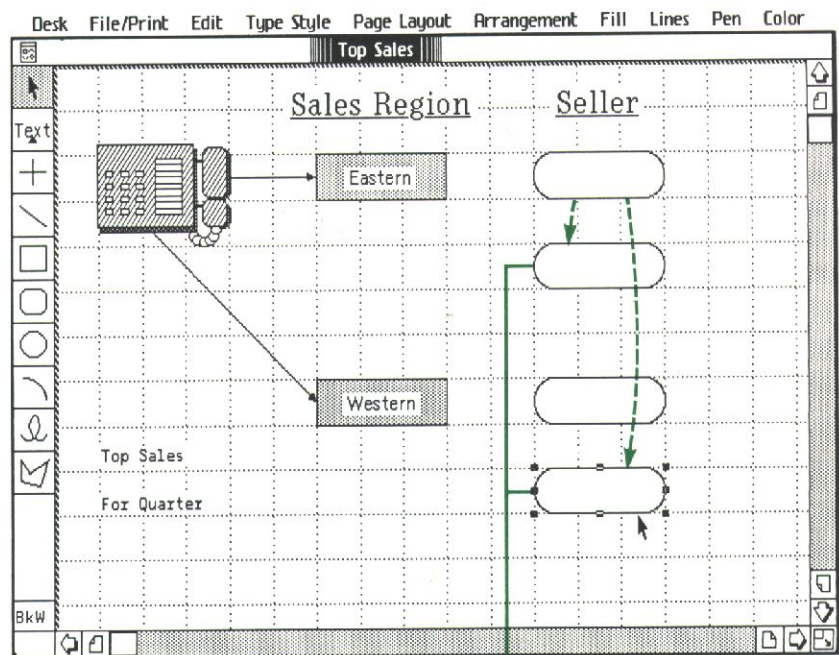
Now that you have all the boxes you need, you're ready to move them into place.

- 1 ► Place the tip of the pointer on a line of the front box, but not on a handle, as shown.





- 3► Move the other two drawings so one is one square below the original box and the other is one square below the box you just moved in step 2, as shown. Don't worry about moving one box over other boxes. (Change the shape of a box by mistake? You pressed with the pointer on a handle. Try using the handles to reshape the box back to size, then move it into place.)

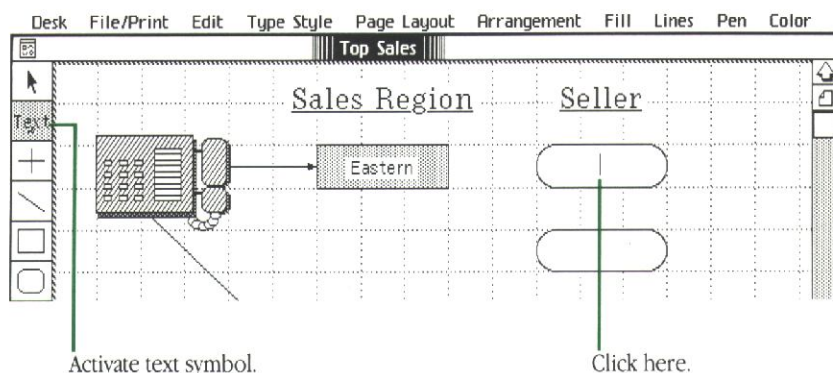


Position other boxes.

Adding Text

Now you need to add the names of the top sellers to the four new empty boxes.

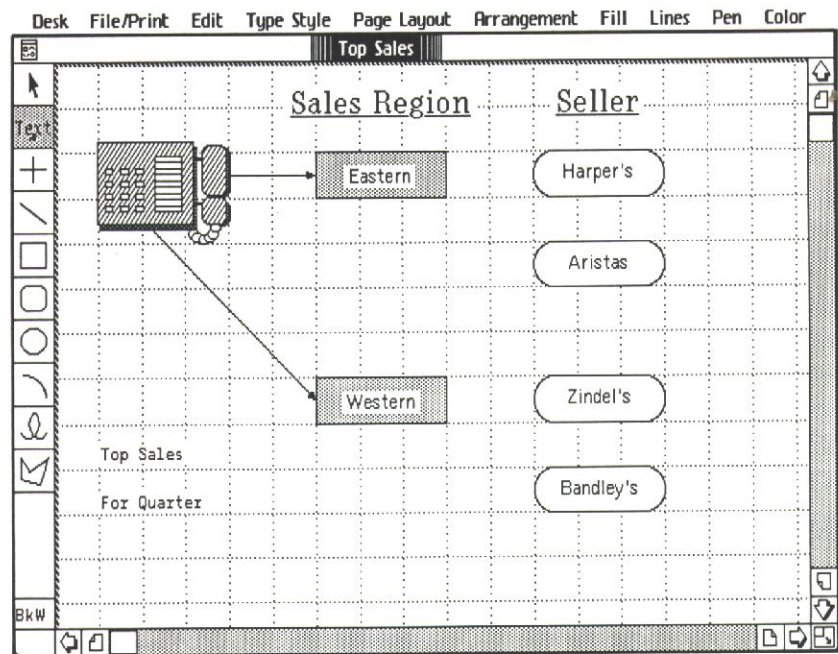
- 1 ► Activate the palette's text symbol by clicking on it, and notice how the pointer changes to a text pointer,



- 2 ► Move the text pointer into the middle of the top empty box and click the mouse button to select an insertion point—a blinking vertical line. (Insertion point not where you want it? Click again where you want it to appear.)
- 3 ► Type the name *Harper's*. (Typing mistake? Use the Backspace key to correct it.).



- 4► Follow the procedure in steps 2 and 3 to type in the other three names—*Aristas*, *Zindel's*, and *Bandley's*—into the other three boxes as shown. (Click to select an insertion point, and then type.)

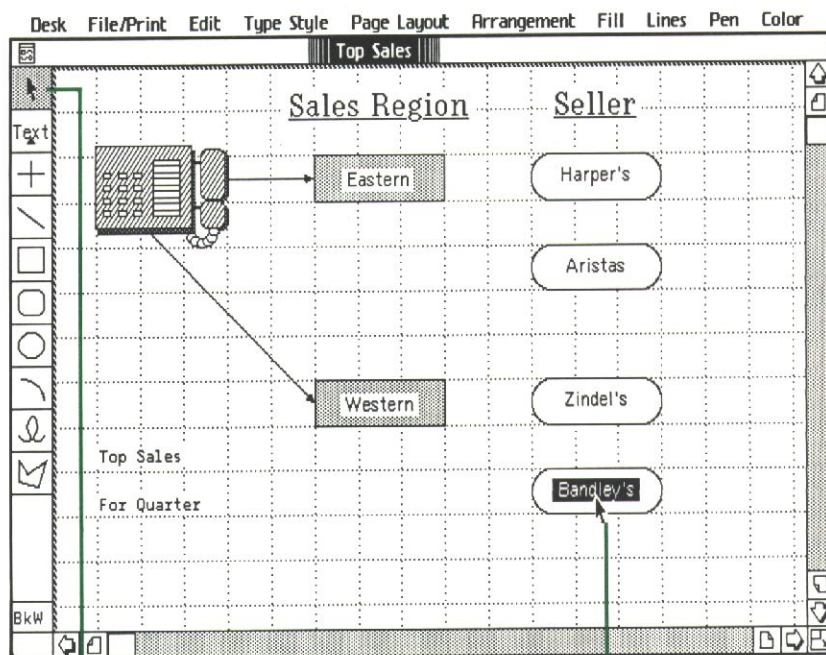


- 5► Now activate the palette's change symbol by clicking on it.

Notice that once you activate the change symbol, the last thing you typed is automatically highlighted, showing that it's selected.

- 6► With LisaDraw you can move text just as you move drawings. Use the change pointer to center any name that needs centering. (Place the tip of the pointer on the name you want to center; then hold down the mouse button and move the name into place.)

Note: If you want to deselect selected text, click once on a blank part of the drawing area.



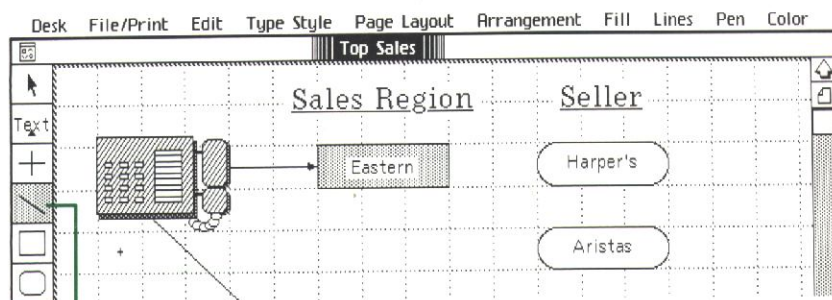
Activate change symbol.

Use change pointer to center text.

Adding Arrows to the Drawing

Follow the steps below to draw arrows from the Eastern and Western boxes to the four new boxes.

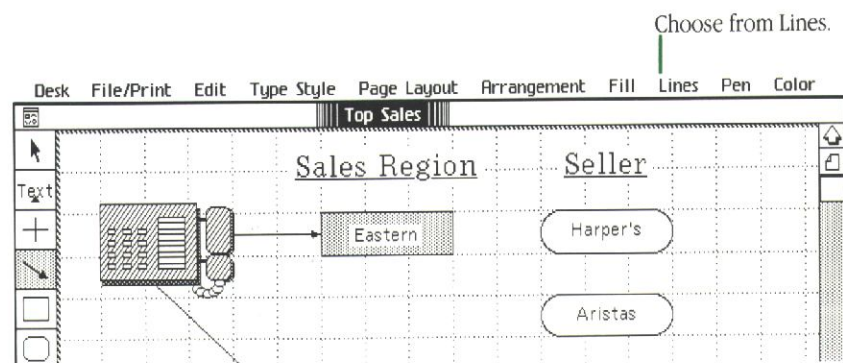
- 1 ► Activate the diagonal line symbol on the palette by clicking on it, as shown.



Activate Diagonal Line symbol.

- 2 ► Choose the **Single-Arrowhead Line** from the **Lines** menu.

Notice that the activated palette symbol now shows a single arrowhead.



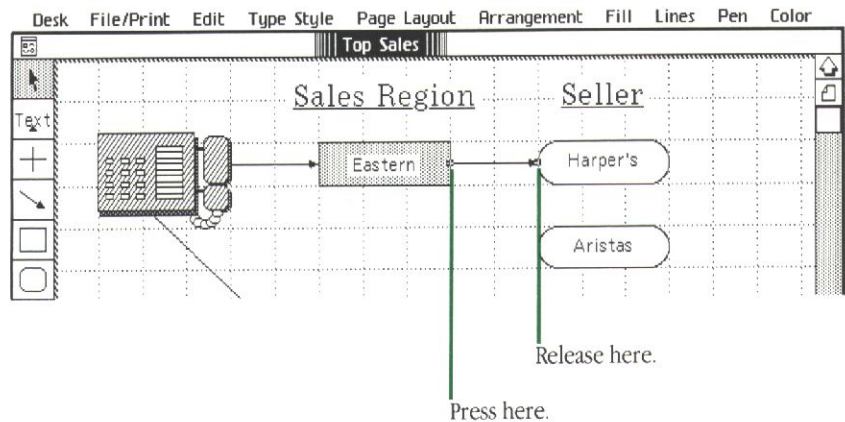
- 3 ► Draw an arrow from the Eastern box straight across to the Harper's box, as shown.

Here's how

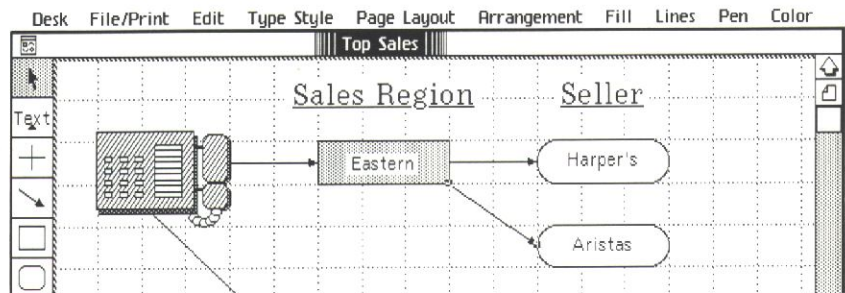
- a. Place the drawing pointer where you want to begin the arrow.
- b. Hold down the mouse button; as you move the drawing pointer, an arrow appears.

- c. Release the button when the arrowhead is where you want it. (Don't like what you drew? Open the **Edit** menu and choose **Clear**, activate the diagonal line symbol on the palette, and try again.)

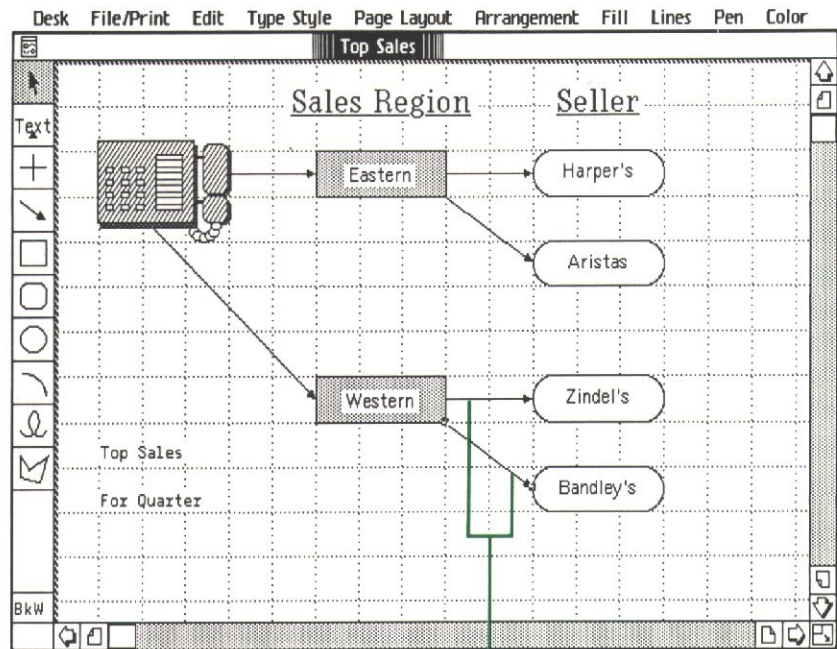
Notice the handles on the arrow and the now-activated change symbol on the palette.



- 4► Each time you draw an object, you need to activate the appropriate symbol on the palette first. Activate the diagonal line symbol again and draw a second arrow from the corner of the Eastern box to the middle of the Aristas box, as shown. (You don't need to choose from the **Lines** menu again.)



- 5 ► Follow the procedure in step 4 to draw two more arrows between the bottom set of boxes, as shown.

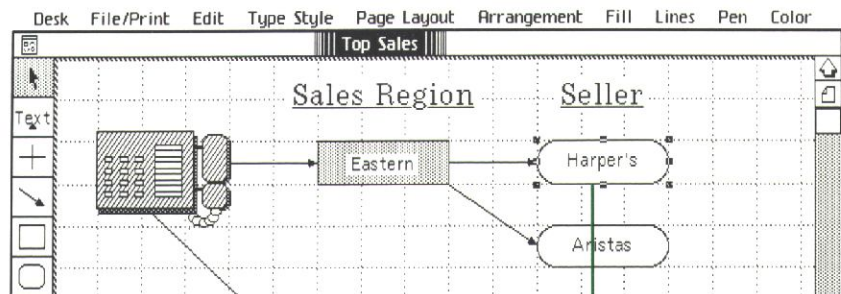


Draw two more arrows.

Shading Boxes on the Drawing

Follow the steps below to add shading to your rounded-corner boxes.

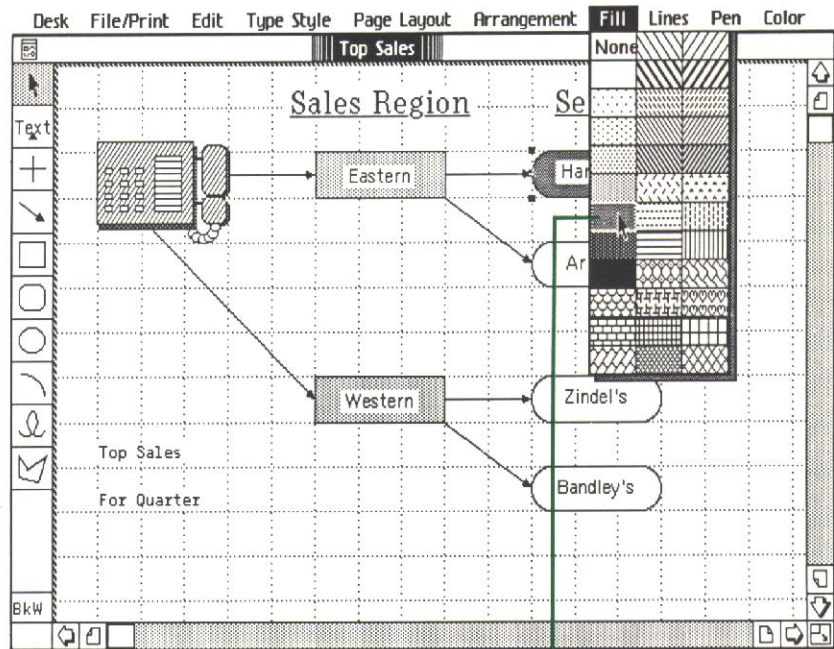
- 1 ► Make sure the palette's change symbol is activated, and then use the change pointer to select the top box containing the word *Harper's*. (Place the tip of the pointer on the edge of the box, but not on the text, hold it still, and click.)



Select box.

- 2► Open the Fill menu and choose the second gray shade above black, as shown. (Choose the wrong shade? Make sure the box is still selected and choose the shade you want.)

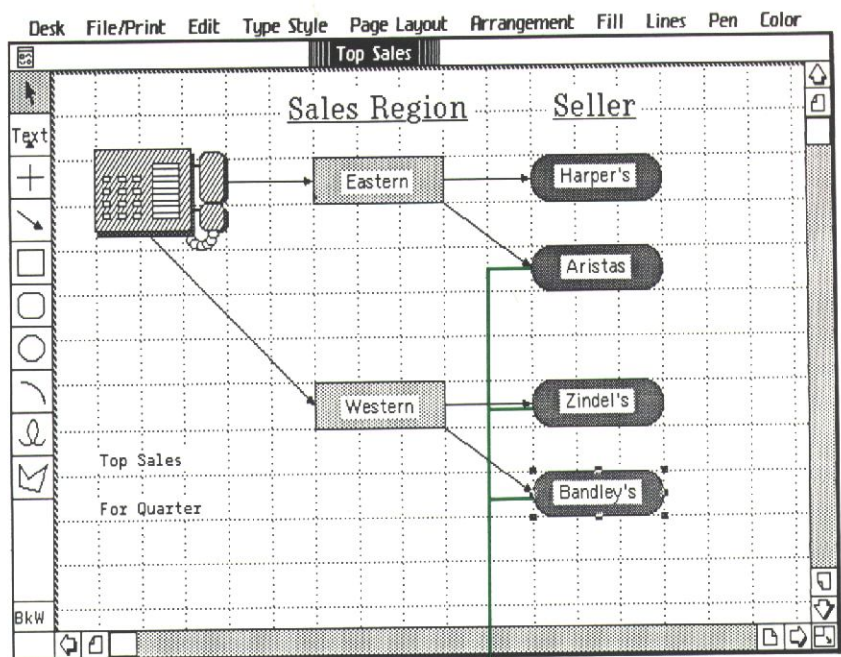
Notice how the selected box is now shaded.



Choose this shade.



- 3► Select and shade the other three boxes in the same way.



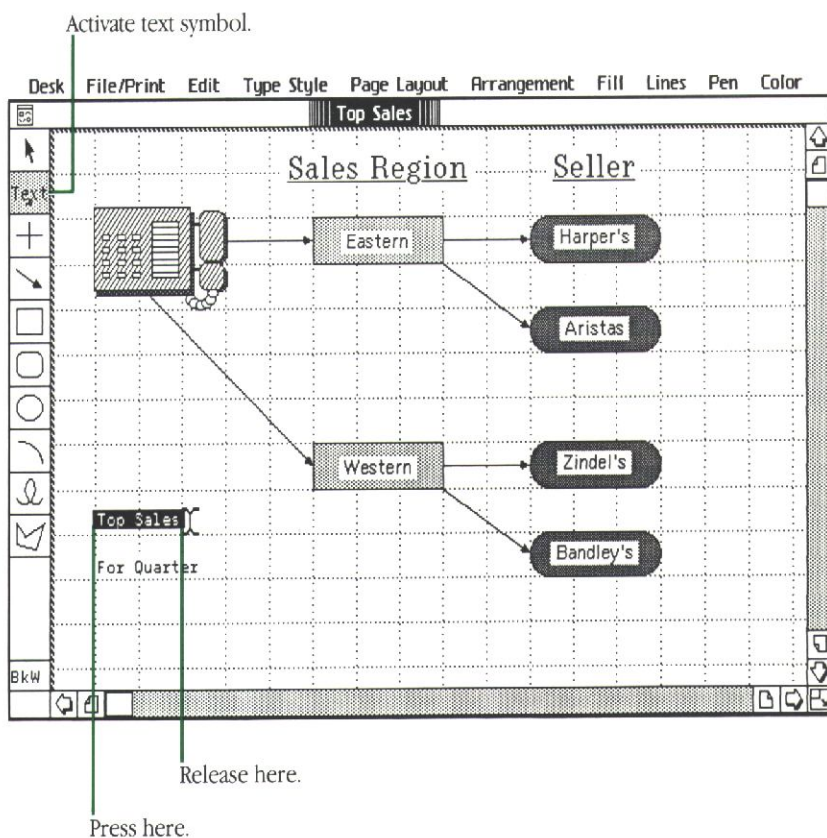
Changing Type Style

The title in the lower left corner, *Top Sales For Quarter*, will look better if it stands out more. Follow the steps below to change the type style into something larger.

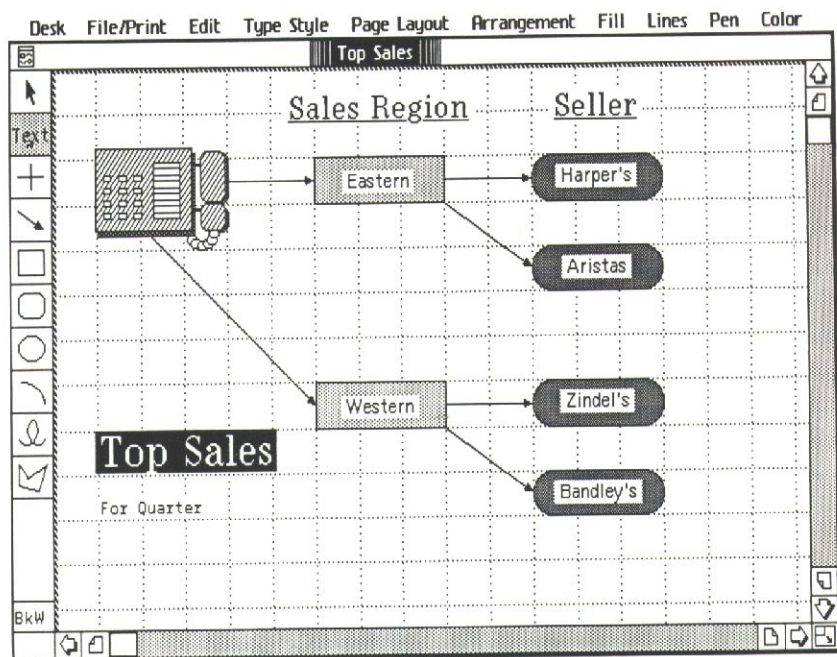
- 1► Activate the palette's text symbol by clicking on it.
- 2► Select the first two words of the title, *Top Sales*.

Here's how

- a. Place the text pointer just to the left of the *T* in *Top*.
- b. Hold down the mouse button and move the pointer through the words; then release. (*Top Sales* not completely highlighted? Try again. Make sure you start with the text pointer right before the *T*.)

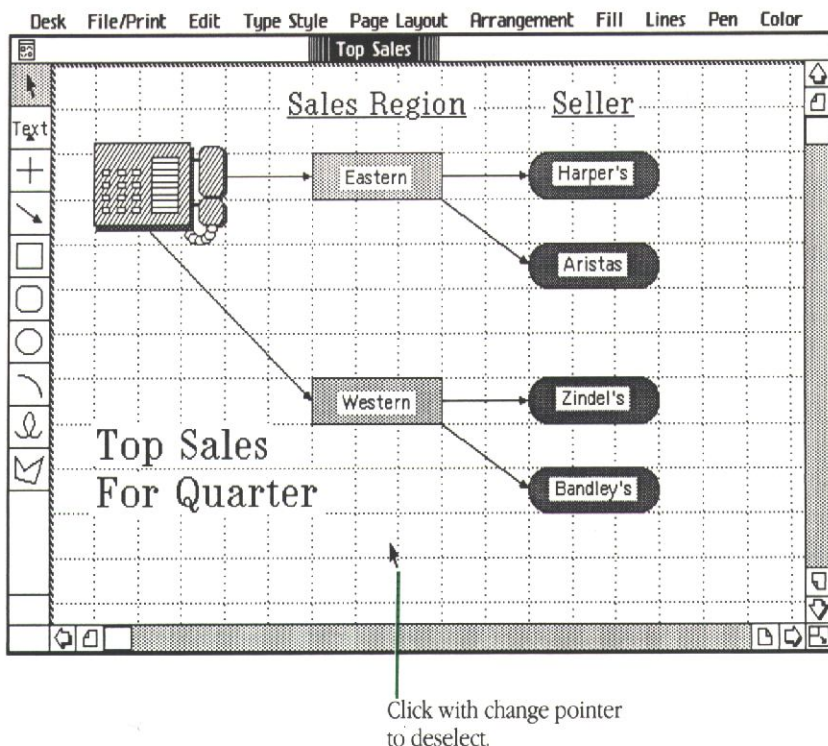


- 3► Open the **Type Style** menu and choose **Classic**, and **24 point**.
(Choose the wrong type style? Make sure the words are still selected and choose the type style you want.)



- 4► Follow the procedure in steps 2 and 3 to change the type style of the rest of the title, *For Quarter*.

Your chart is now complete. To see it with nothing selected (no highlighting), activate the change symbol and click on a blank part of the drawing area.



Printing Your Document

You can now print the LisaDraw drawing you've been working on if you want to. For guidelines on printing, refer to *Printing Your Document*, in Chapter 3 of the *Lisa Office System* manual.

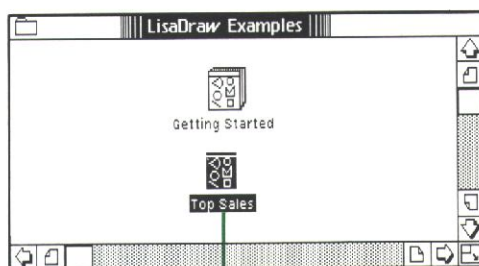
If you don't want to print your chart now, or if no printer is available, go on to the next section, *Putting Your Document Away*.

Putting Your Document Away

Now that you've finished working on your document, follow the steps below to put it away. Even if you chose to print your document and it's still printing, you can continue to use your Lisa to do other work.

- 1 ► Open the **File/Print** menu and choose **Save & Put Away**. (Is the **Save & Put Away** menu item dim? If so, you need to click in the document to activate the window.)

Notice how the window zooms down to a document icon back in its filing home in the LisaDraw Examples folder.

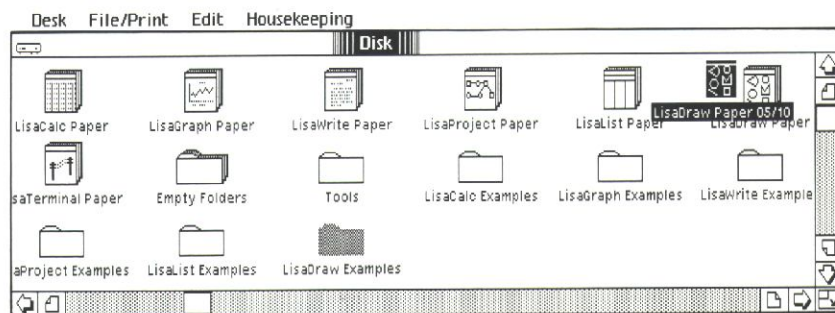


Document is saved and put away.

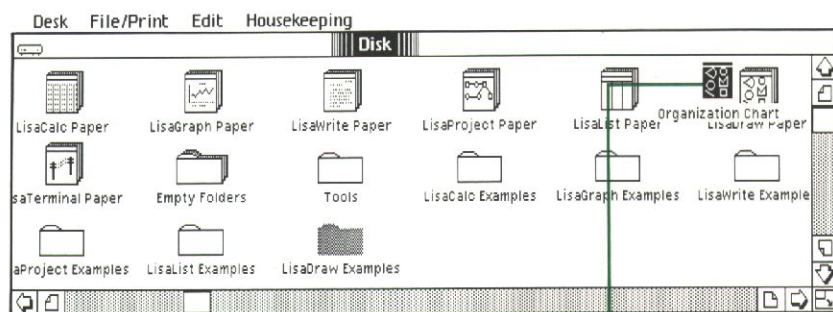
Starting from Scratch

To start a new drawing, you need to get a piece of LisaDraw stationery, as described below. Blank LisaDraw stationery is in a pad called LisaDraw Paper, in the disk window.

- 1 ► Tear off a sheet from the LisaDraw Paper pad at the top of the disk window. (Select the pad icon; open the **File/Print** menu and choose **Tear Off Stationery**.)

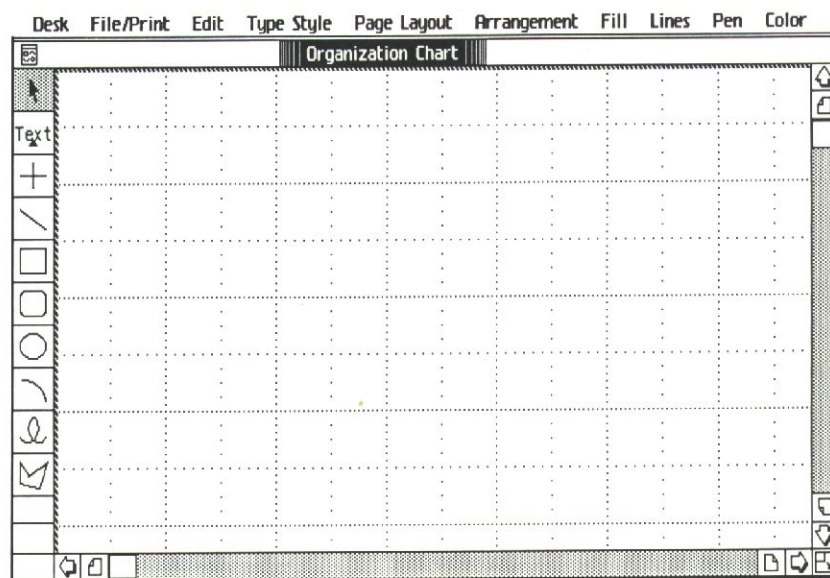


- 2► Don't worry right now about moving the new document out of the way. Change its name to *Organization Chart*. (Make sure the icon is selected; then type.)



Type Organization Chart.

- 3► Open the piece of LisaDraw paper you named Organization Chart as you would any document. (Open the **File/Print** menu and choose Open "Organization Chart".)



- 4 ► Now if you want to draw, activate a palette symbol and draw. Experiment—try different things. Press the mouse button and move across the menu bar and look at what's in all your menus. If you want specific information on something, look in Chapter 2, LisaDraw Reference Guide, or check the index.

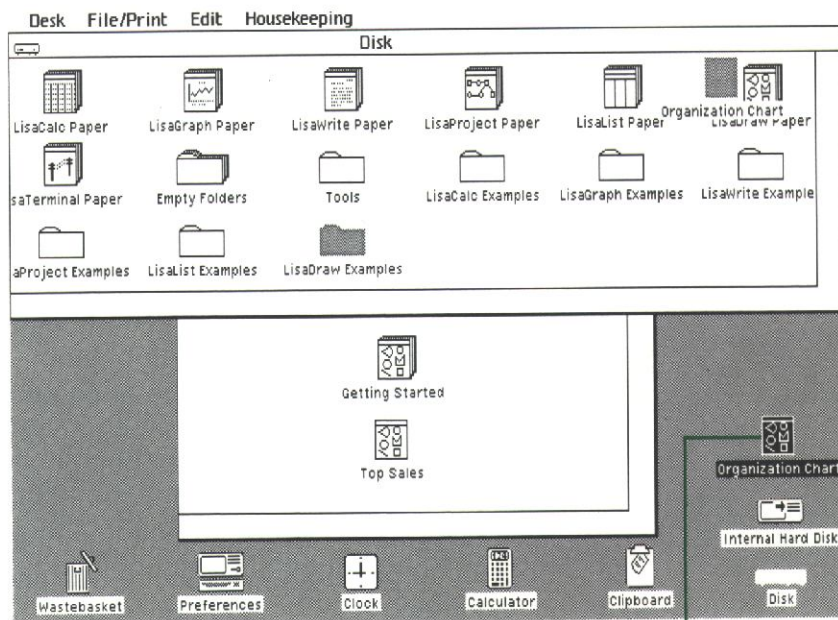
Finishing Up

It is a good idea to save all your documents and clear off your Lisa's desktop at least once a day. The steps below illustrate one of the many ways you can manage things on the Lisa desktop.

Note: When you are connecting, disconnecting, moving, or servicing equipment, you must turn off the power and unplug the Lisa. Normally, however, you should turn off your Lisa only at the end of each week, and always leave your hard disk, if you have one, turned on.

- 1► Choose Set Aside "Organization Chart" from the File/Print menu and notice how Organization Chart is set aside as an icon on the desktop.

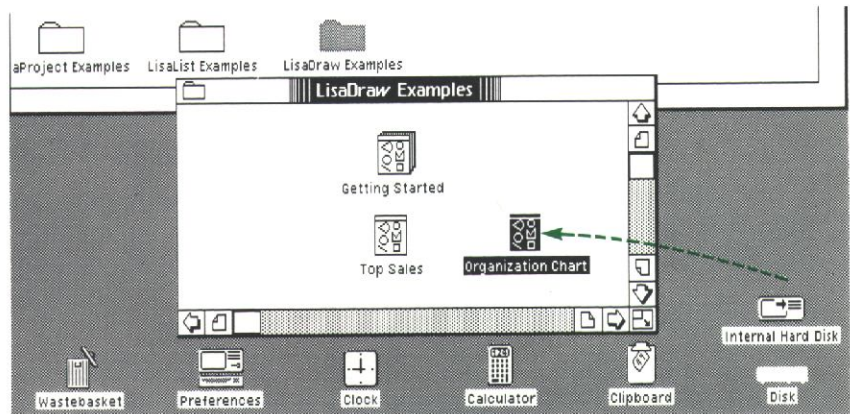
Note: When you're working with several documents at the same time, it's often convenient to keep some of them set aside on the desktop, where it's easy to get at them.



Organization chart
is set aside.

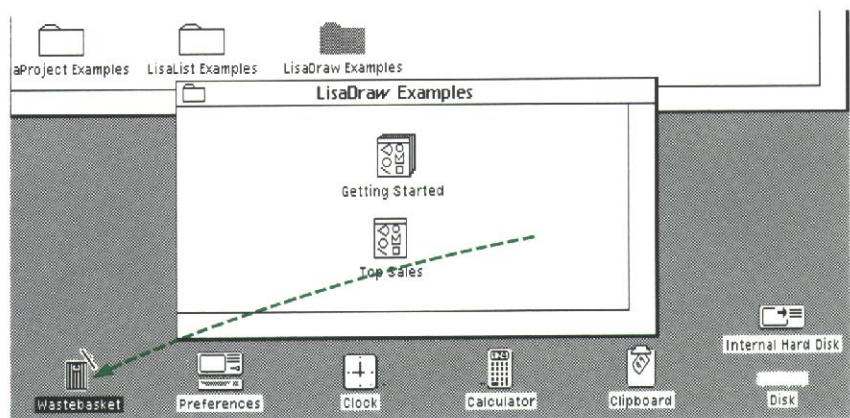


- 2► If you want to file the Organization Chart document in a new place, move it to a clear area in the LisaDraw Examples folder, as shown. (Press with the pointer on the icon, move it, and release when the icon is where you want it.)



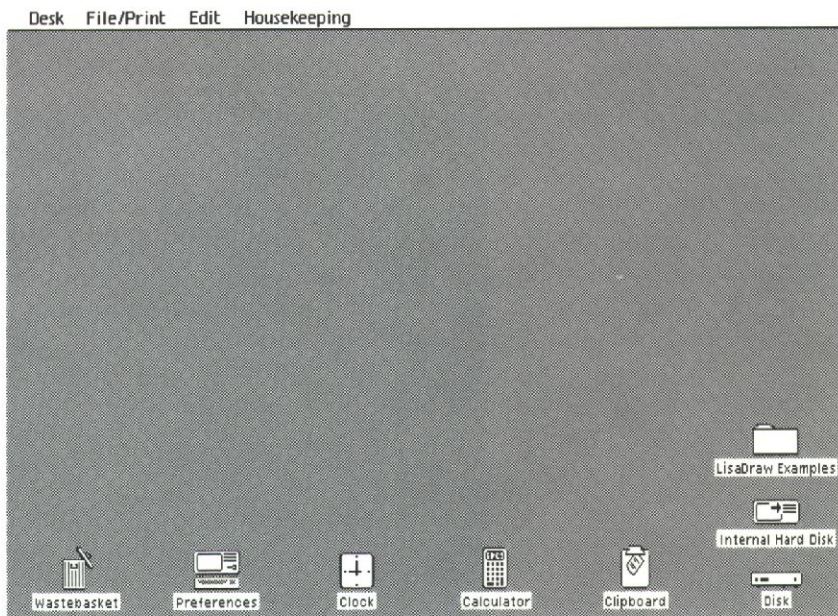
- 3► If you want to throw away the Organization Chart document, move it to the Wastebasket icon. When the document icon is on the Wastebasket and the Wastebasket icon highlights, release the mouse button and wait for the document to be deposited.

Note: You can always get back the last thing you've thrown away by opening the Wastebasket icon and moving the deposited document back out.



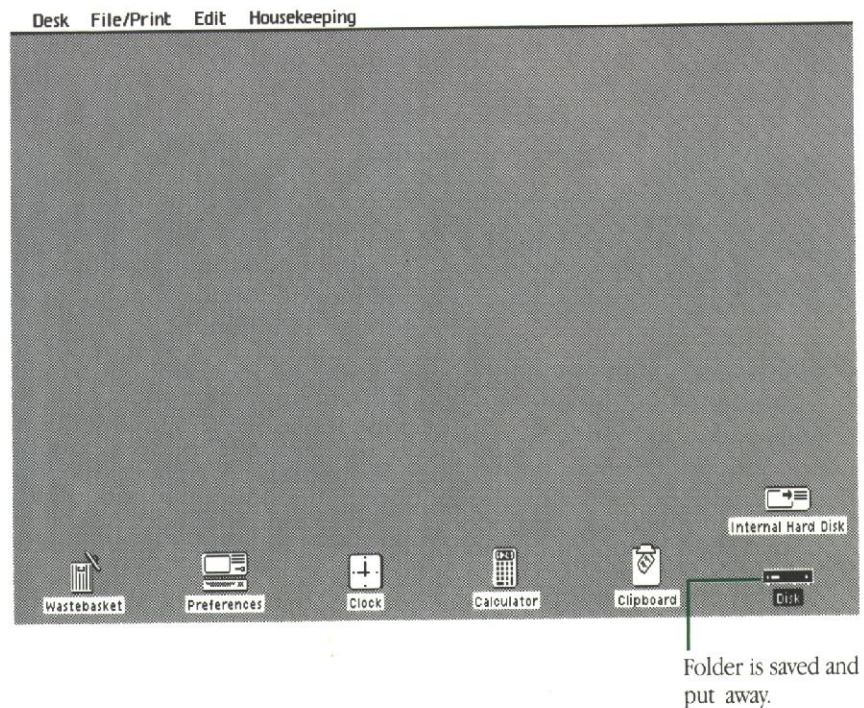
- 4► Now set aside both the LisaDraw Examples folder and the Disk icon by opening the **File/Print** menu and choosing **Set Aside Everything**.

Notice that both the Folder and Disk icons are now set aside on the desktop.



- 5► You can put away the LisaDraw Examples folder back in its filing home in the disk even when the disk window is closed. To do so, select the LisaDraw Examples folder, open the **File/Print** menu, and choose **Save & Put Away "LisaDraw Examples"**.

Note: If you want to deselect a selected icon, click once when the pointer is not over the icon.



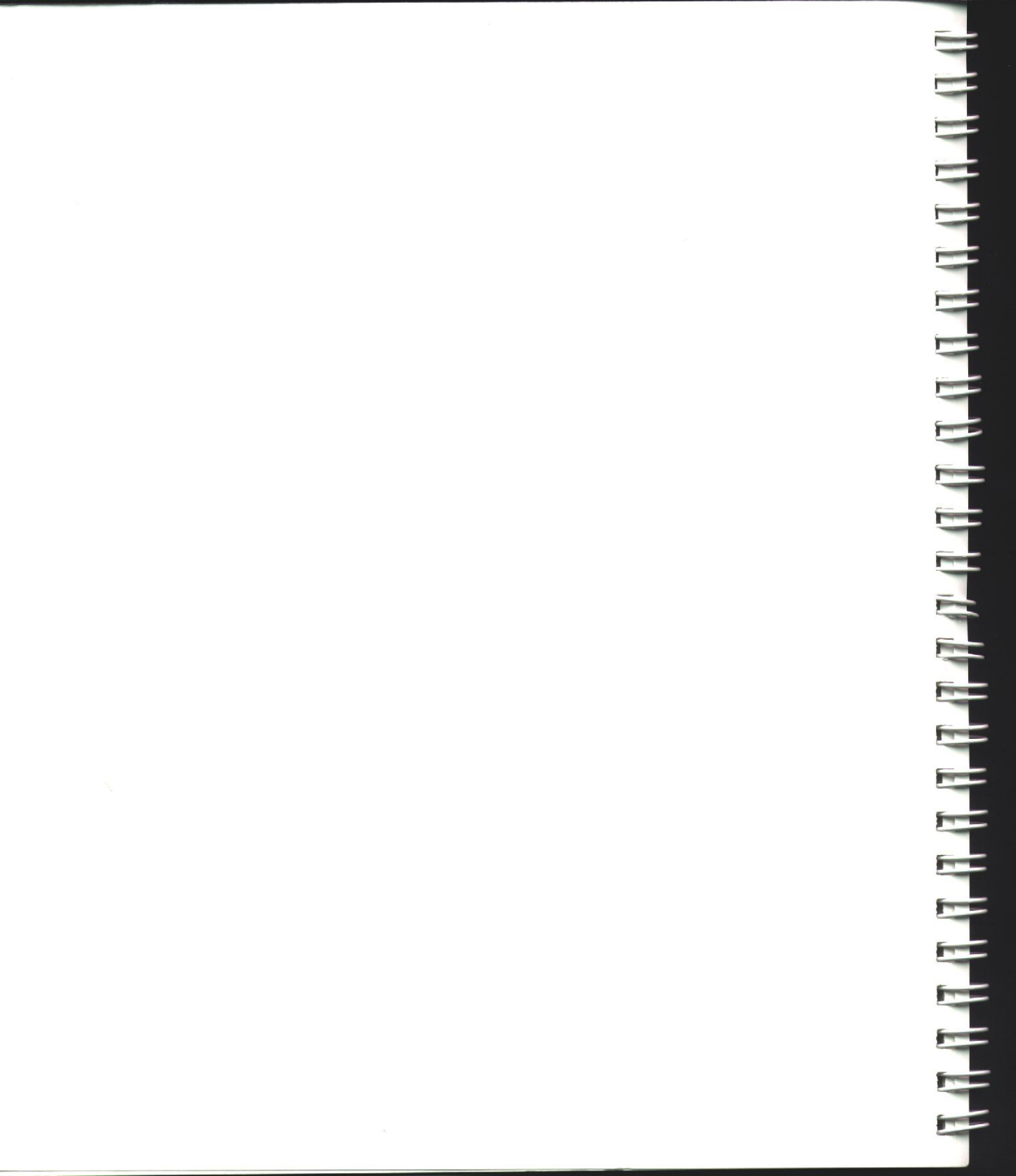
- 6► When you are ready to work on something else, just open the disk again. When you want to turn off the Lisa's power—for example, over the weekend—press the lit on-off button, as shown. When you turn on the Lisa again, everything will reappear as you left it when you turned the Lisa off, including documents you may have left open on the desktop. Normally, you should leave the external hard disk, if you have one, turned on.

Using LisaDraw

You now have the basic skills necessary for using LisaDraw to produce your own LisaDraw documents. Because the concepts for using each Lisa tool are the same, you also have some of the basic skills for using other Lisa tools: LisaCalc, LisaGraph, LisaList, LisaProject, and LisaWrite.

To learn more about LisaDraw, go on to Chapter 2, Using LisaDraw. If you have questions about specific LisaDraw features or menus, refer to Chapter 3, LisaDraw Reference.

For answers to questions about the Lisa desktop, on which LisaDraw and other Lisa tools work, see the *Lisa Office System* manual.



Chapter 2

Using LisaDraw

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LisaDraw Essentials

Before You Begin

The information on the following pages presents the essential features and basic concepts of LisaDraw. It describes the LisaDraw display screen, and familiarizes you with the parts of it you need to use when you begin drawing. You should read and be familiar with this information before using the remainder of this Chapter.

Before you begin this chapter, be sure you've gone through Chapter 1, Learning LisaDraw, which gives you practice working with a LisaDraw document. You should now feel comfortable with special terms, such as *selecting* and *choosing*, used in reference to the Lisa.

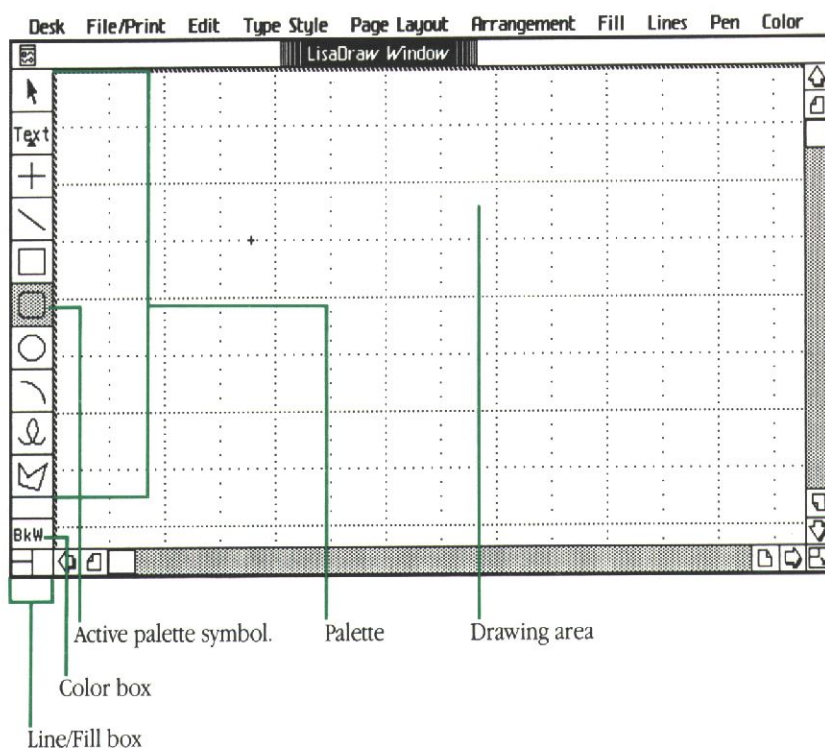
Procedures you should understand before beginning this chapter include the following:

- How to move the pointer around the screen using the mouse.
- How to open menus and choose menu items.
- How to select text or objects on the screen.
- How to open and save documents.
- How to change the size of a window and how to move a window around on the desktop.
- How to scroll the window to see different parts of the document.

If you need help, or if you want to refresh your memory, now is a good time to review LisaGuide once more. Refer also to Chapter 3, Lisa Essentials, in the *Lisa Office System* manual.

The LisaDraw Window

Your LisaDraw screen is similar to a desktop set up for drawing. The illustration below shows you how it looks. The drawing area is in the center, with the palette of drawing symbol choices to the left, the scroll bars along the right and bottom of the drawing area, and menu choices across the top. The features you need to know to begin a drawing are discussed below.



The Drawing Area

In the LisaDraw window, the area with dotted grid lines is called the drawing area. It is the area on which you create your drawing. The drawing area shown on the screen is a "window" that you can move around to view the actual drawing area, which is larger than the screen. When you begin a new drawing, the drawing area is automatically 8 inches wide by 10 inches long, the smallest size the drawing area can be. With that size, you can create a drawing that will fit neatly on a standard-sized piece of office paper (8½ by 11 inches).

At times you may want to enlarge your drawing area, which can be up to 96 by 48 inches (8 feet by 4 feet). To enlarge the drawing area, see Changing the Size of the Drawing Area, under Changing the Size of an Entire Drawing.

To bring more of the drawing area into view, use any of the scroll methods described in the *Lisa Office System* manual.

LisaDraw Paper The dotted grid lines which you see in the drawing area appear because the initial paper type is *auto-grid paper*. The paper type can be changed to either *grid paper*, or *plain paper*.

To aid you in aligning objects as you draw, auto-grid paper and grid paper show grid lines on them. The grid lines do not print when you print your drawing. Plain paper is completely blank on the screen, as though you were drawing on a white piece of paper. Use plain paper for freehand drawings and when you don't need the grid to plan the spacing between objects in your drawing.

For more information on these types of drawing paper, how to change them, and how to change the grid sizes, see Changing Paper Types.

The Palette

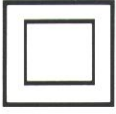
The column of boxes to the left of the drawing area is called the palette. LisaDraw's palette is much like an artist's palette, but instead of choosing colors, you activate symbols from the palette to create the objects in your drawing, such as text, lines, circles, and freehand shapes. Table 1 shows the palette symbols, their names, and why you would use them.

Table 1. The Palette

Palette Symbol	Palette Symbol Name	Used to
	Change symbol	Select objects in a drawing when you want to change them, for example, when you want to shrink or move objects, or when you want to use a menu item to customize objects.

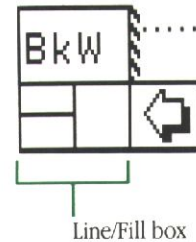


Table 1. The Palette, continued

Palette Symbol	Palette Symbol Name	Used to
	Text symbol	Add text to a drawing or edit existing text.
	Horizontal/vertical line symbol	Draw horizontal and vertical lines, with or without arrows.
	Diagonal line symbol	Draw diagonal lines, with or without arrows.
	Box symbol	Draw squares and rectangles with square corners.
	Rounded-corner box symbol	Draw squares and rectangles with rounded corners.
	Circle symbol	Draw circles and ovals.
	Arc symbol	Draw arcs.
	Freehand symbol	Draw freehand lines and shapes.
	Polygon symbol	Draw objects with two or more sides.

The Line/Fill Box

Whenever you activate any palette symbol except the change symbol (the one with the arrow on it) or the text symbol, the line/fill box in the lower left hand corner of the screen shows the following:



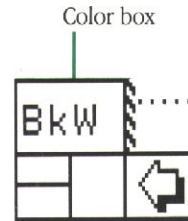
- The line thickness and shade or pattern currently in effect for *all palette symbols*. This shows what the line or edge of an object will look like when you draw it.
- The fill shade or pattern currently in effect for the inside of *the currently activated palette symbol*. This shows how the inside of an object will look when you draw it.

The line/fill box tells you *before* you draw an object what the line thickness and shading or pattern of the edge and the inside of that object will be when you draw the object.

You can change line thickness, and the shading and pattern of both the line or edge of an object, and the inside of an object, either before you draw objects or after you draw them. For more information, see Changing Line Thickness, Changing Line Shade and Pattern, and Changing Fill Shades and Patterns, under Changing Objects in a Drawing.

The Color Box

The color box appears just above the line/fill box in the lower left hand corner of the screen. When a palette symbol is activated, it shows the initials of the colors that an object will be printed in. When an object is selected in the drawing, the color box shows the initials of the colors that the selected object will print.



- The left initials in the color box show the foreground, or *line/pattern color*. The *line/pattern color* is what appears dark on the Lisa screen, such as lines, text, and the dark portion of shades and patterns.
- The right initials show the *background color*. The *background color* is what appears white on your screen, such as the inside of an object, and the area immediately surrounding text.

Similar to the line/fill box, when a palette symbol is activated, the left initials show the line/pattern color set for *all palette symbols*. The right initials show the background color set for the *currently activated palette symbol*. For more information on changing colors, see Changing the Color of Objects.

Note: Only black and white will print unless you have a special color printer.

The Menu Bar

The menu bar shows the names of the LisaDraw menus that you can use to perform special operations. A complete description of LisaDraw menus and menu items is found in Chapter 3, LisaDraw Reference.

Selecting Parts of a Drawing

Selecting a part or parts of a drawing is something you will do whenever you want to make any type of change to existing objects. For information on drawing objects, see Drawing Basic Objects.

When you want to change an object or objects in a drawing, there are always two steps involved:

1. Select the object in the drawing.
2. Make the change.

For example, to stretch an object, you select it and then pull on one of its selection "handles."

An object is anything in the drawing area: A letter or word, a line of text, a straight line, a circle or square, or a freehand shape. When you have selected an object, small black squares, called handles, surround the object or appear on its ends. For example, a selected circle is surrounded by handles. A selected line has a handle on each end. Selected text is surrounded by black background.

You can select single or multiple objects at any time with one of the selection methods described below. The method you choose is generally a matter of personal preference. In addition, you can group multiple objects so that they are treated as a single object when you select them.

The following procedures show you how to select different parts of a drawing, and group multiple objects to treat them as one object.

To Select Any Part of a Line of Text:

- 1▶ Click on the text symbol in the palette.



- 2▶ Press and drag through the characters you want to select.

You can **select part of a line** of text.

To Select a Word in a Line of Text:

- 1▶ Click on the text symbol in the palette
- 2▶ Double-click on the word you want to select.

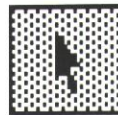
You can select one **word** in a line of text.



To Select a Single Line of Text:

If the word does not darken to indicate that it is selected, you probably waited too long between clicks.

- 1 ► Click on the change symbol in the palette.



- 2 ► Click once on the line of text you want to select.

You can select a complete line of text.

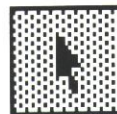
Or

- 1 ► Click on the text symbol in the palette.
- 2 ► Triple-click on the line of text you want to select.

You can select a complete line of text.

To Select a Straight Line:

- 1 ► Click on the change symbol in the palette.



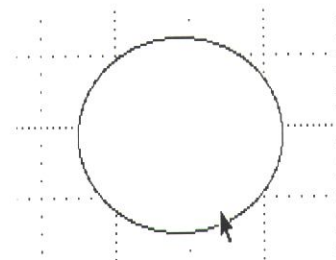
- 2 ► Move the pointer to the edge of the straight line you want to select and click once.



Handles appear on each end of the line.

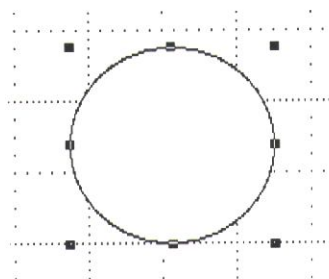
- 1 ► Click on the change symbol in the palette.
- 2 ► Move the pointer to the solid shape you want to select, or its edge.

A *solid shape* is a circle, oval, square, rectangle, arc, polygon, or freehand shape which has a shade or pattern other than "None." When an object is solid, you can select the inside of it, or the edge of it.



To Select a Non-Solid Shape:

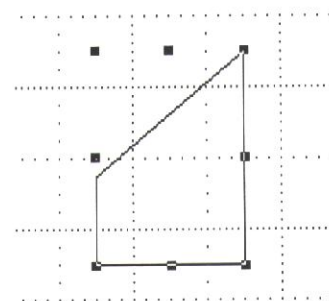
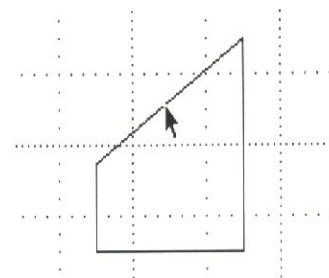
- 3 ► Click once to select the object.



- 1 ► Click on the change symbol in the palette.
2 ► Move the pointer *exactly* to the edge of the non-solid shape you want to select.

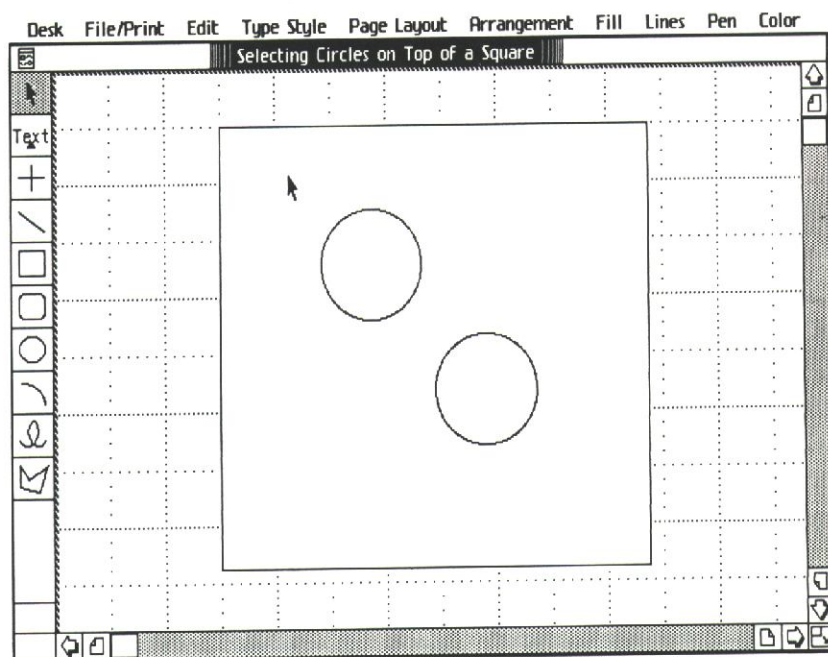
A *non-solid shape* is a circle, oval, square, rectangle, arc, polygon, or freehand shape which has the shade or pattern "None." LisaDraw treats these shapes as if they were composed only of the outside line.

- 3 ► Click once to select the object.



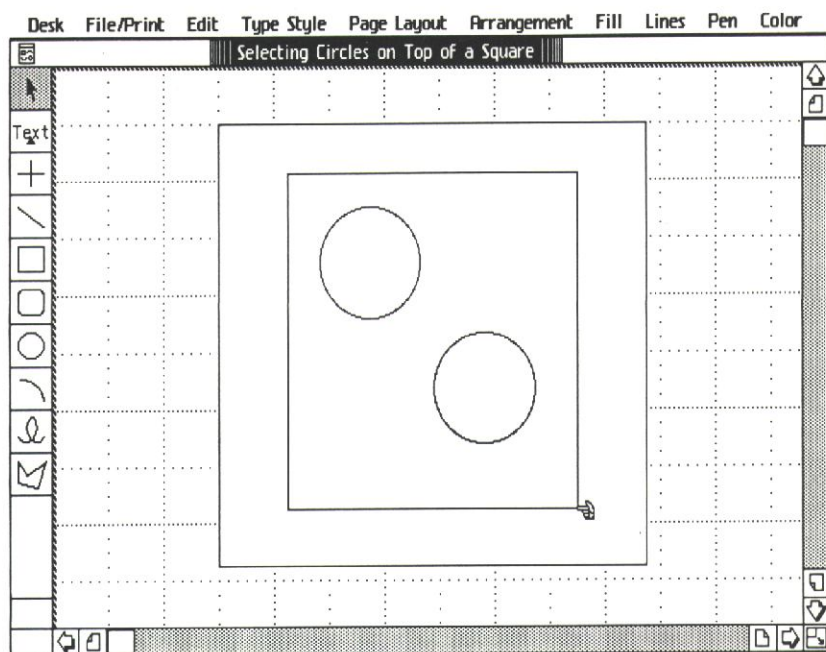
**To Select Small
Objects which Are
on Top of Other
Objects:**

- 1► Click on the change symbol in the palette.
- 2► Move the pointer above and to the left of the objects you want to select.

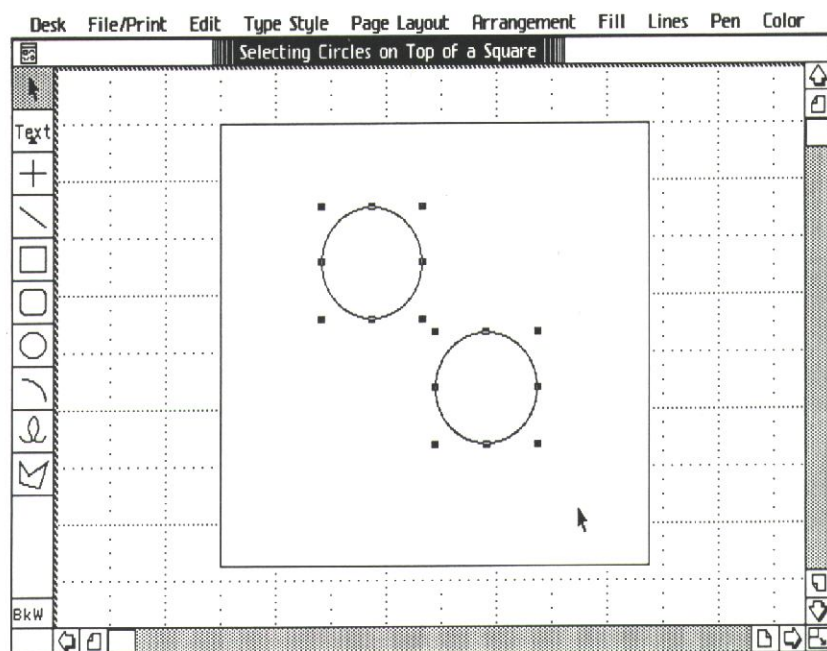


- 3► Press and hold down the Shift key.
- 4► Press and hold down the mouse button. You can release the Shift key any time after pressing the mouse button.

- 5► Slide the pointer diagonally and down to the right across the objects you want to select. The hand pointer and selection box appear. The selection box enlarges as you slide the pointer.

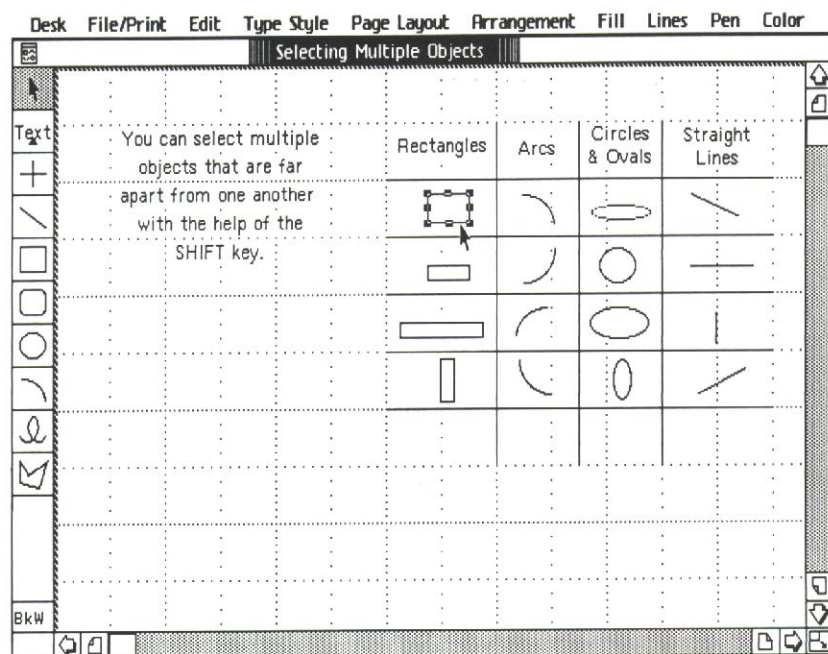


- 6► When all the objects you want to select are enclosed in the selection box, release the mouse button.



To Select Multiple Objects Far Apart:

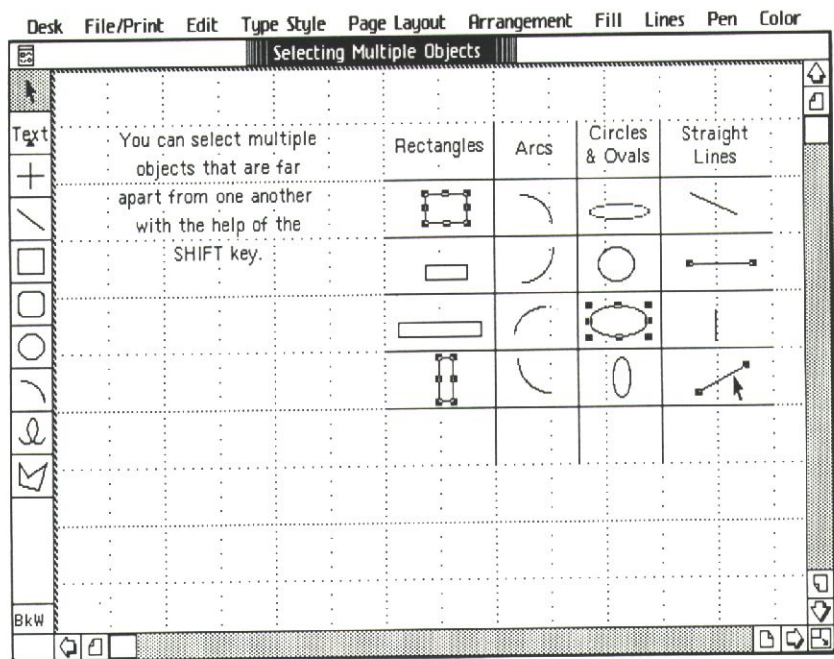
- 1 ► Click on the change symbol in the palette.
- 2 ► Move the pointer to the first object and click once on its edge.



- 3 ► Press and hold down the Shift key.



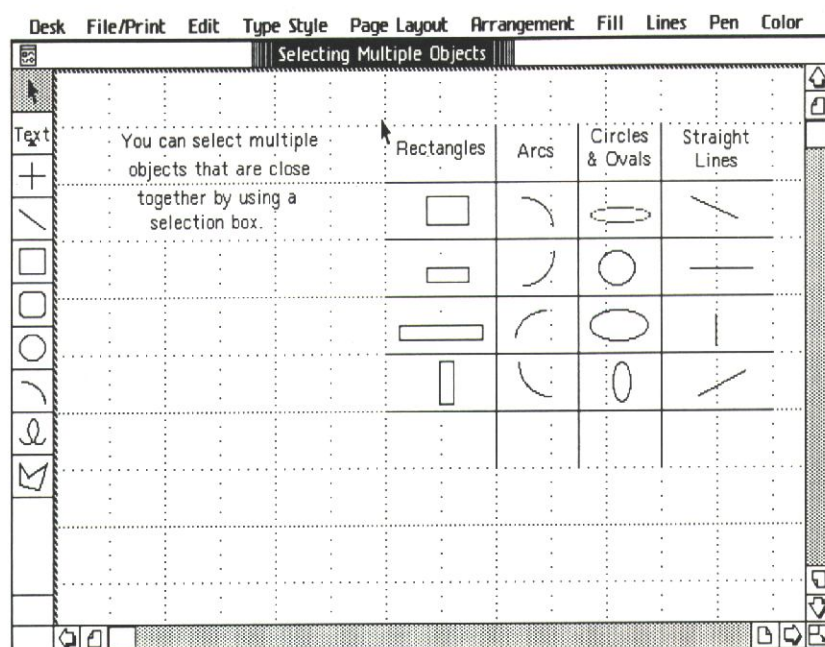
- 4► Select the remaining objects by clicking on each one.



- 5► Release the Shift key.

**To Select Multiple
Objects Close
Together:**

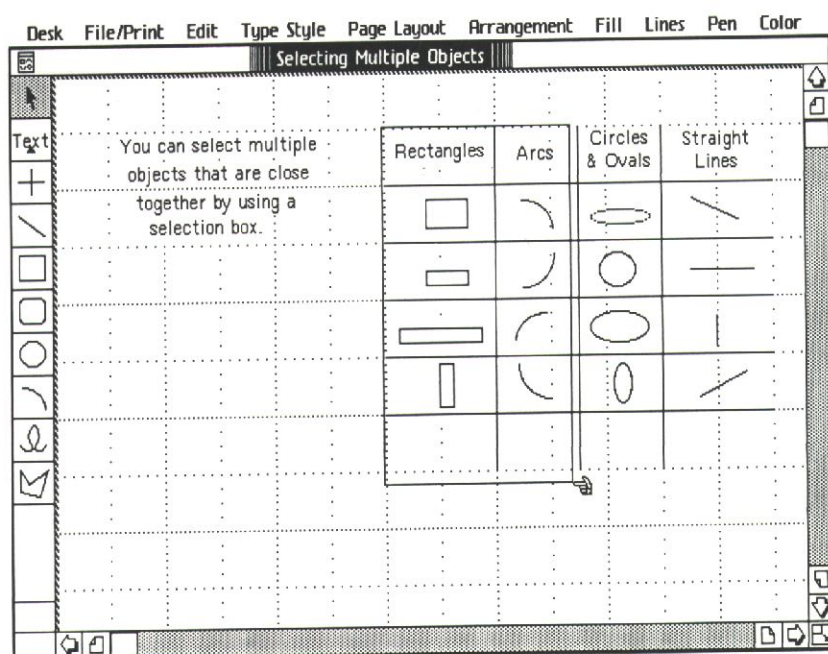
- 1► Click on the change symbol in the palette.
- 2► Move the pointer above and to the left of all the objects you want to select.



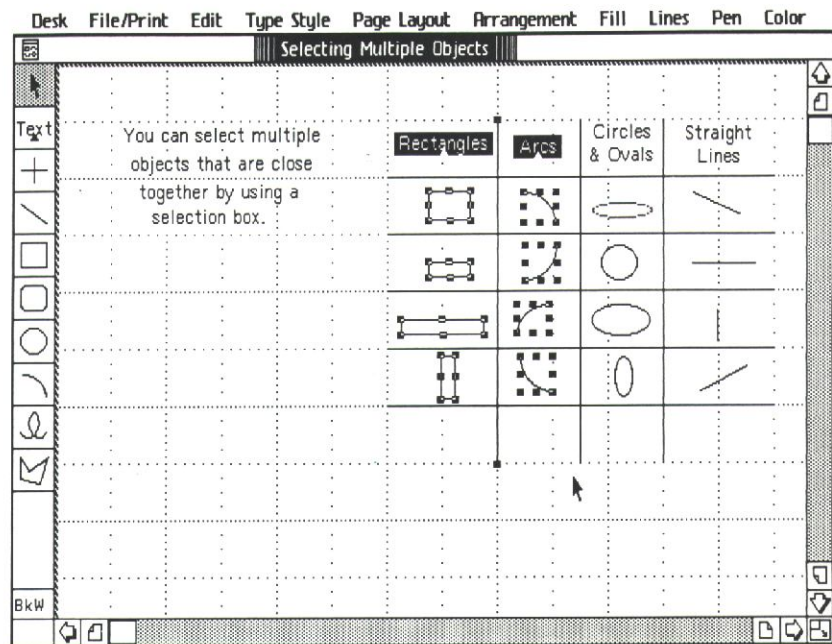
- 3► Press and hold down the mouse button.



- 4► Slide the pointer diagonally and down to the right across the objects you want to select. The hand pointer and selection box appear. The selection box enlarges as you slide the pointer.



- 5 ▶ When all the objects you want to select are enclosed in the selection box, release the mouse button.



To Select Most Objects:

- 1 ▶ Open the **Edit** menu and choose **Select All**.
- 2 ▶ Hold down the **Shift** key and click the mouse button once on each object you want to *deselect* in the drawing.

To Select Objects which Are Grouped Together:

- 1 ▶ Move the pointer to one of the objects which are grouped together and click once.

To Select Everything in a Drawing:

- 1 ▶ Open the **Edit** menu and choose **Select All**.

To Deselect, or Select Nothing:

- 1 ▶ Click on an empty place on the drawing area.
Or
- 1 ▶ Select another object.
Or
- 1 ▶ Click on any symbol in the palette except the change symbol.

To Select a Handle When You Are Reshaping a Polygon or Curve:

Grouping Objects in a Drawing

- 1► Use any of the selection methods listed above to select one or more handles.

For more information on reshaping objects, see Reshaping Objects.

When you group objects together, LisaDraw treats the entire group as a single object. Any action you perform on one member of a group is taken on the whole group. For example, if you group three boxes and try to shrink one of the boxes, the other two shrink proportionately.

Grouping objects is useful when you want to move several objects or when you want to duplicate a complicated portion of a drawing. Grouping objects keeps the objects proportionate to each other in size, shape, and distance, whether you move, duplicate, or perform other actions on the group. You can also combine existing groups into one and move or duplicate them as a single group. For information on duplicating, see Moving, Copying, and Deleting.

Once you've grouped objects in a drawing, LisaDraw remembers them as a group until you ungroup them.

What You Can't Do When Objects Are Grouped

Some LisaDraw features cannot be performed on objects while they are grouped together. To perform the following actions on objects which are grouped, ungroup them first.

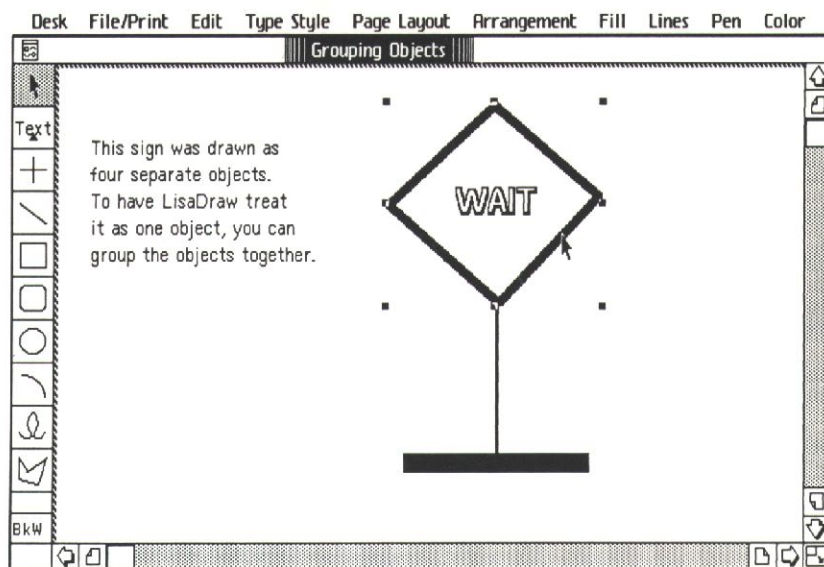
- You cannot align individual objects when they are grouped together, although you can align various groups of objects, as though each group were one object.
- You cannot reshape an object when it is grouped with other objects. You must reshape arcs, polygons, and freehand lines one at a time.
- You cannot edit text while it is grouped with other objects, including other lines of text.

Ungrouping Objects

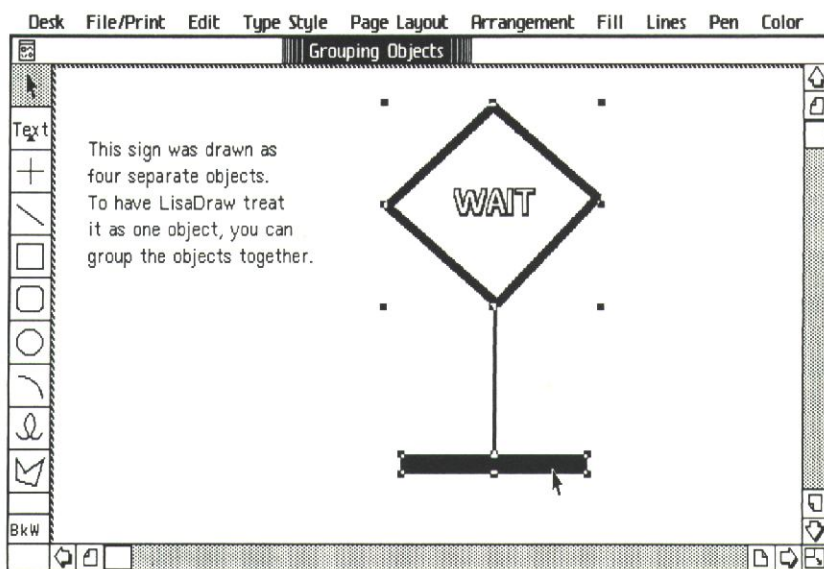
After you change or move grouped objects, you may want to ungroup them. For example, if your group includes a circle, a square, and a polygon, any action you perform on one member of the group is performed on the other two. If you want to add a pattern to the circle but not to the square or polygon, you will have to ungroup the objects first. Also, if you want to align the objects in a group with other objects in the drawing, you must first ungroup the grouped objects in order to align them. For information on aligning, see Aligning Objects.

To Group Objects:

- 1 ► Move the pointer to the center of the first object or to its edge and click once to select the object.

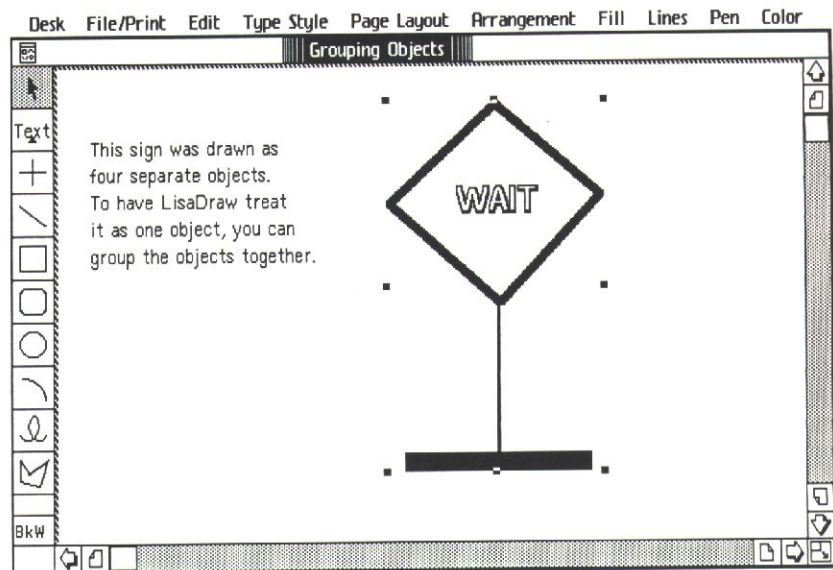


- 2 ► Move the pointer to the center of the second object or its edge, hold down the Shift key and click once.



- 3► Repeat step 2 for each of the additional objects you want to select.
- 4► Open the **Arrangement** menu and choose **Group Objects**.

The selection handles spread out to surround all the objects.



To Ungroup Objects:

- 1► Select the group of objects you want to ungroup.
- 2► Open the **Arrangement** menu and choose **Ungroup Objects**.

The objects are no longer grouped, but all the objects are selected. To deselect all the objects, click once on an empty part of the drawing area. Then select the object you want to work with.

Creating a New Drawing

To Create a New Drawing:

- 1► Select the disk by clicking once on its icon.



- 2► Open the **File/Print** menu and choose **Open Disk**.

Drawing Basic Objects

- 3 ▶ Select the LisaDraw paper icon by clicking once on its icon.



- 4 ▶ Open the **File/Print** menu and choose **Tear Off Stationery**.
- 5 ▶ Type a name for the new untitled drawing (the name can be of any length).



- 6 ▶ Open the **File/Print** menu and choose **Open "your drawing"**.

For a shortcut to creating a new drawing, see Shortcuts and Alternatives later in this chapter.

Object is the term used in this manual to indicate anything you create in a drawing: A line, a square, or any other shape, and any amount of text, from one letter, a number, or a word, to a line of text.

The procedures on the following pages tell you how to draw the following objects:

- Straight Lines and Arrows.
- Circles, Ovals, Squares, and Rectangles.
- Arcs.
- Freehand Shapes.
- Polygons.

All of these objects can be drawn directly with the symbols shown on the palette at the left of the LisaDraw window. You can also create curved objects by starting with a freehand shape or polygon and then smoothing it. For more information, see Smoothing and Unsmoothing Polygons and Freehand Shapes, under Changing the Size and Shape of Objects.

Guidelines for Drawing Objects

Although text (for example, a label or title) is an object, it is discussed separately. To add or change text in a drawing, see Adding and Changing Text in a Drawing.

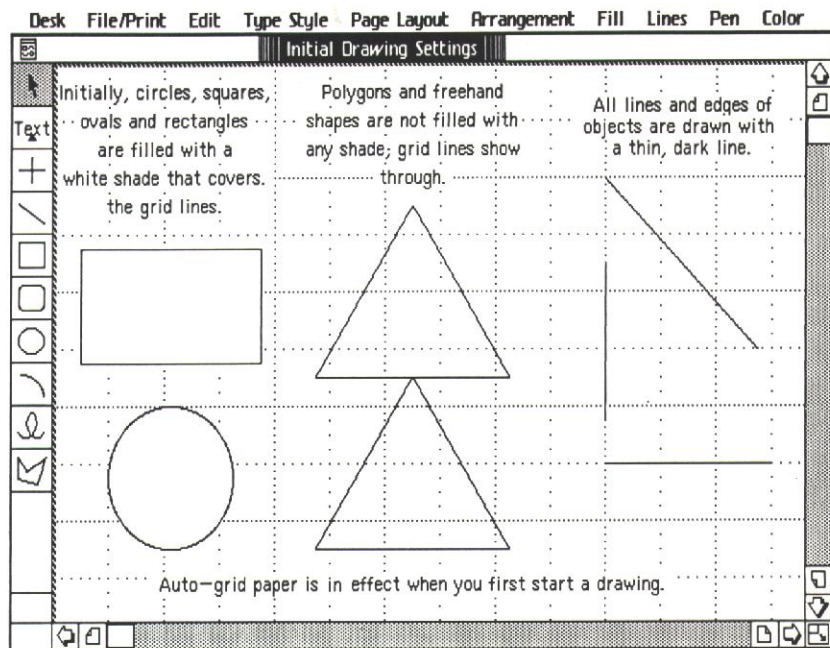
Before you use a specific procedure, read the following information on Guidelines for Drawing Objects.

When you begin a new drawing on LisaDraw paper, all objects that you create have certain characteristics:

- Lines and edges of objects are shaded black, and use the thinnest available width.
- Circles, ovals, squares and rectangles are filled with a white shade, and are treated as *solid* objects. You see the white shade when you draw solid objects on auto-grid or grid paper—the grid lines do not show through the objects you draw.
- Arcs, freehand shapes, and polygons are not filled with any shade, and are treated as *non-solid* objects. If you are using auto-grid or grid paper, the grid lines show through a non-solid object.
- The only colors which will print are black and white.

In addition, the initial paper type of new drawings is auto-grid paper.

These initial settings are shown below.



All of these settings can be changed, either before or after you draw an object. For more information, see *Changing the Appearance of Objects*, and *Changing Paper Types*.

Once you've drawn an object, you can easily alter its size and shape. For step-by-step instructions, see *Changing the Size and Shape of Objects in a Drawing*, and *Measuring the Size of Objects and Drawings*.

The Basic Steps for Drawing Any Object

To draw any object, you first choose the palette symbol you want to use, and then draw the object. In most cases, the steps are exactly the same as those that follow, no matter what you want to draw. Drawing polygons, however, requires slightly different steps. Specific information about drawing each type of object follows this procedure.

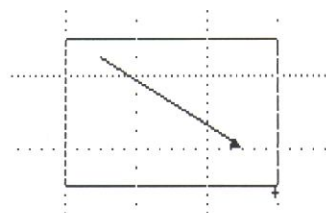
This sample procedure uses the example of drawing a circle. Remember that these same basic steps are used to draw all of the basic lines and shapes except polygons.

To Draw Any Object:

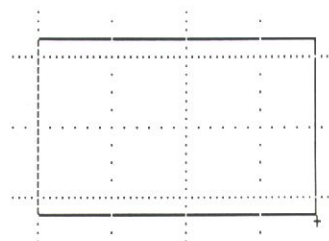
- 1▶ Click on the palette symbol of the line or shape you want to draw.



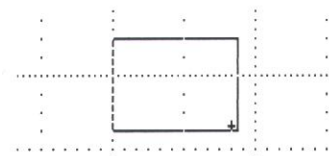
- 2▶ Move the pointer into the drawing area to the place you want to begin drawing the object.
- 3▶ Press and hold down the mouse button and move the pointer in any direction.



The object gets larger as you move the pointer farther away from the starting point.

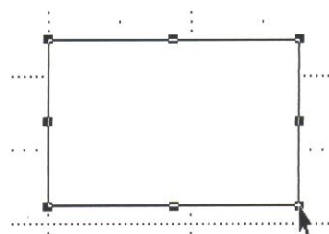


If you back up toward the starting point, the object gets smaller.



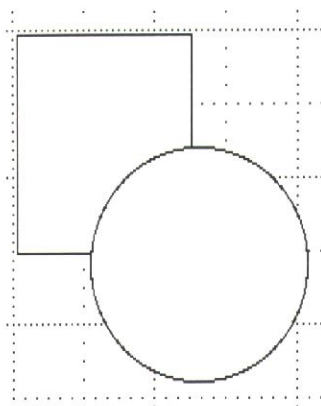
- 4▶ When the object is the desired size, release the mouse button.

The object you just drew is selected—that is, it has small black squares around it called “handles.”



**To Draw an Object
So that It Overlaps
Another Object:**

- 1► Draw the object using the four basic steps shown above, starting and ending the drawing so that it overlaps the existing objects you want it to cover. To create three dimensional effects or change the depth of field, see Changing the Perspective of Objects in a Drawing.

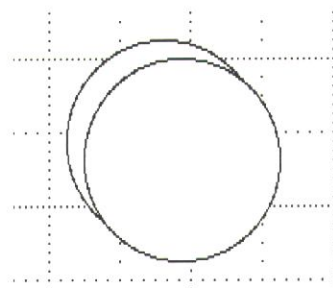


**To Draw Another
Object with the
Same Palette
Symbol:**

- 1► Place the drawing pointer where you want to begin drawing, hold down the Apple key and press and hold down the mouse button as you begin to draw. The symbol you last used is automatically re-activated in the palette. Release the Apple key after the object is started.

**To Duplicate an
Object:**

- 1► Make sure the first object you drew is selected.
- 2► Open the **Edit** menu and choose **Duplicate** to create an exact copy of the original object. For more information, see Duplicating Objects in a Drawing, under Moving and Copying.



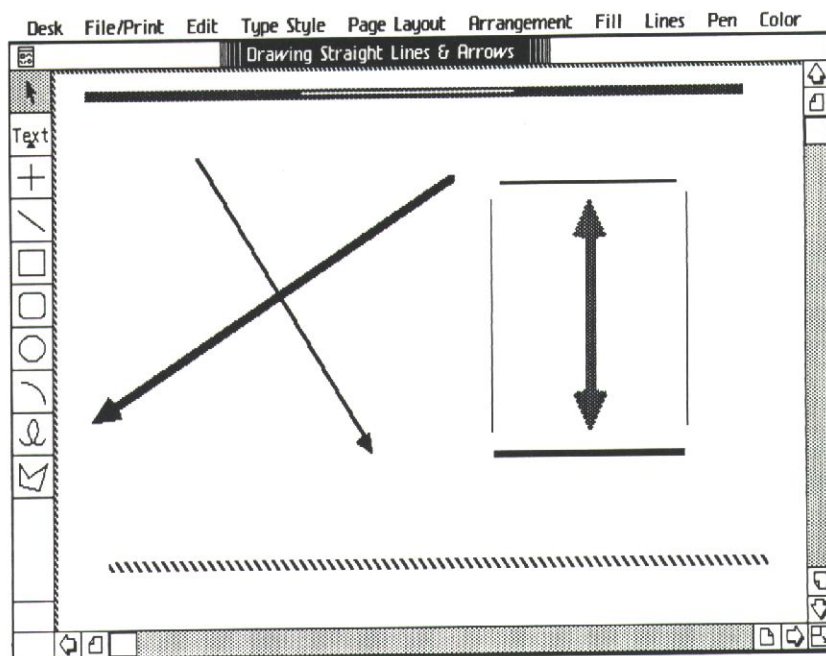
**To Draw Another
Object of a Different
Line or Shape:**

- 1► Repeat steps 1 through 4 above to draw any object, using the palette symbol of your choice.

Drawing Straight Lines and Arrows

You can draw horizontal, vertical, and diagonal lines, and you can draw any of these straight lines with arrows.

Two symbols on the palette let you draw straight lines: the horizontal/vertical line symbol (+) and the diagonal line symbol (/). The lines shown below were all drawn with these two line symbols.



When the horizontal/vertical line symbol is activated, you can only draw horizontal or vertical lines. If you activate the horizontal/vertical line symbol and try to draw a diagonal line, LisaDraw automatically produces a horizontal or vertical line.

To Draw Straight Lines:

- 1 ► Click on either the horizontal/vertical line symbol or the diagonal line symbol in the palette.



To Draw Straight Lines with Arrows:

- 2► Move the pointer into the drawing area to the place you want to begin the line. Press and hold down the mouse button, moving the pointer in the direction you want to draw the line.

- To draw a diagonal line, drag the pointer diagonally in any direction.



- To draw a horizontal line, drag the pointer to the right or left.



- To draw a vertical line, drag the pointer up or down.



- 3► When the line is the desired length, release the mouse button.

- 1► Click on one of the line symbols in the palette—either the horizontal/vertical line symbol or the diagonal line symbol.



- 2► Open the **Lines** menu and choose the arrow you prefer.



The palette line symbol you activated in step 1 now has arrows on it.



- 3► Move the pointer into the drawing area to the place you want to begin the line. Press and hold down the mouse button, moving the pointer in the direction you want the arrow.
- 4► When the arrow is the desired length, release the mouse button. The arrowhead appears where you stopped drawing the line, and points in the direction you drew the line. If you chose the double arrow line in step 2, arrowheads appear at both ends of the line.



Note: The line you draw must be at least $\frac{1}{4}$ of an inch long to display the arrow.

- 5► If the arrow appears at the opposite end from where you wanted it, open the **Lines** menu and choose **Switch Arrows**.
- 6► Turn off the arrows.
 - a. Click on the line symbol on which arrows appear.
 - b. Open the **Lines** menu and choose **No Arrows**. The arrows disappear from the line symbol.

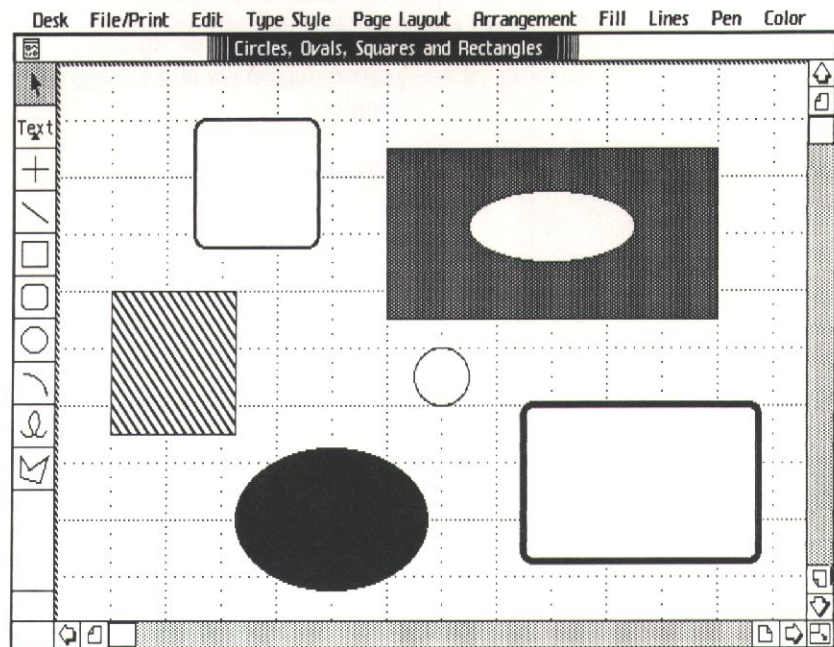
Drawing Circles, Ovals, Squares, and Rectangles

Circles, ovals, squares and rectangles are drawn using three symbols on the palette:

- The **circle symbol** is used to draw circles and ovals.
- The **square symbol** is used to draw squares and rectangles with square corners.
- The **square symbol with rounded corners** is used to draw squares and rectangles with rounded corners.

Objects drawn with these symbols are automatically filled with a white shade. You can change this later, if you like. For more information, see *Changing the Inside of Objects*, under *Changing the Appearance of Objects*.

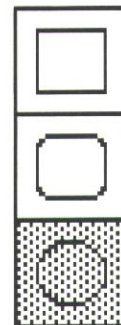
Some of the kinds of circles, ovals, squares and rectangles you can create with LisaDraw are shown below.



You can change the curve of the corners on rectangles. For more information, see *Changing the Curve on Rectangles*, under *Changing the Appearance of Objects*.

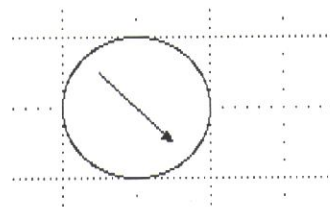
To Draw Circles, Ovals, Squares, or Rectangles:

- 1 ► Click on the appropriate symbol in the palette.

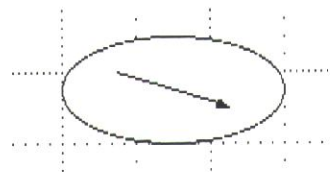


- 2► Move the pointer into the drawing area to the place you want to begin drawing. Press and hold down the mouse button, moving the pointer in the direction you want to draw.

- To draw a circle or square, move diagonally at a 45-degree angle.

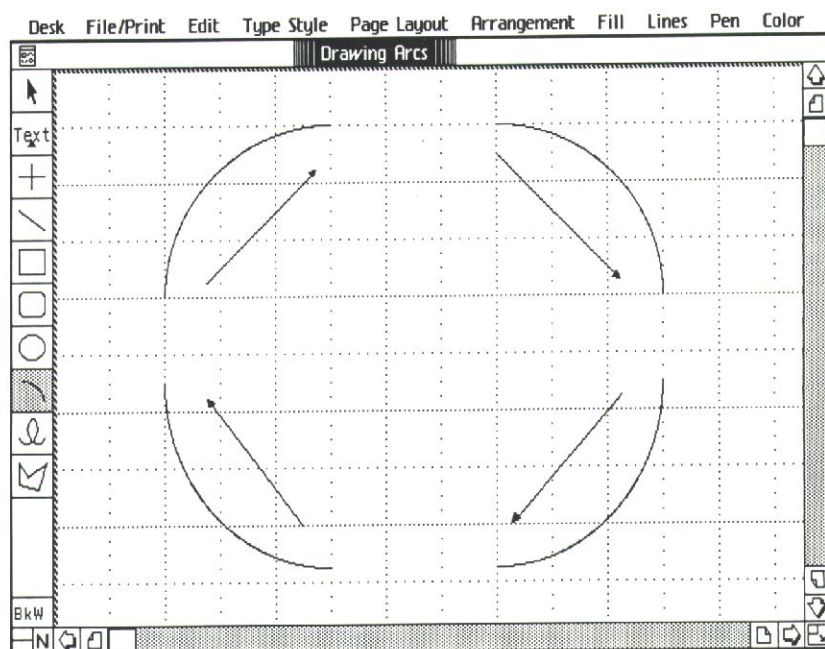


- To draw an oval or rectangle, move horizontally or vertically at about a 20-degree angle.



Drawing Arcs

An arc is part of the circumference of a circle or oval. The key to getting the arc to curve in the direction you want is in the way you move the pointer. The movements you should make to create arcs that curve in different directions are shown below.

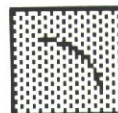


Arcs are harder to draw than circles or squares because they require more precision on your part, but you can reshape an arc after it's drawn to improve its appearance. For more information, see Reshaping Arcs, under Changing the Size and Shape of Objects.

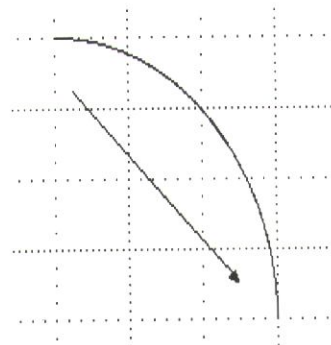
Arcs are not initially filled with any shade, although you may add one later.

To Draw an Arc:

- 1► Click on the arc symbol in the palette.



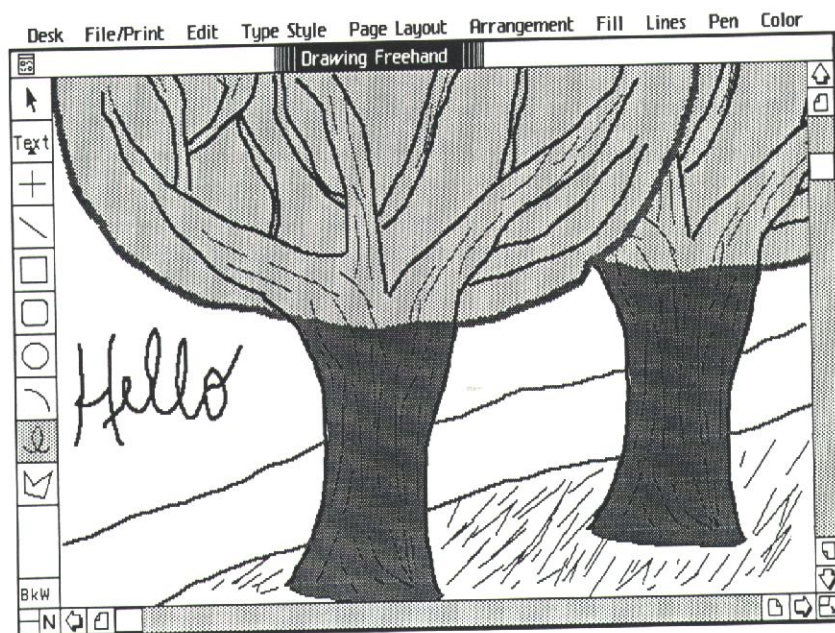
- 2► Move the pointer into the drawing area to the place you want to begin drawing. Press and hold down the mouse button, curving the pointer in the direction you want the arc to go. Arcs are easiest to draw if you use a large, sweeping stroke.



- 3► When the arc is the desired size and shape, release the mouse button.

Drawing Freehand Shapes

Freehand shapes can be drawings, handwritten items like your signature, or a combination of both. Use the freehand drawing symbol in the palette to draw freehand shapes. The freehand shapes shown below were created with the freehand symbol.



Freehand shapes are not initially filled with a shade, although you may shade them later.

Drawing freehand requires some practice. You may want to look at these additional procedures under Changing the Size and Shape of Objects to help you refine your freehand drawings:

- Reshaping Objects.
- Smoothing and Unsmoothing Polygons and Freehand Shapes.

- 1 ► Click on the freehand symbol in the palette.



- 2 ► Move the pointer into the drawing area to the place you want to begin drawing the freehand shape.

To Draw Freehand Shapes:

- 3► Press and hold the mouse button down and move the pointer in any direction by moving the mouse, as though you were painting with a brush or drawing with a pencil.



There is a limit to the length of the freehand line you can draw. If you are still moving the mouse but nothing is appearing on the screen, you have reached the limit of that line.

- 4► When you reach the limit of the freehand line, or when your drawing is complete, release the mouse button.

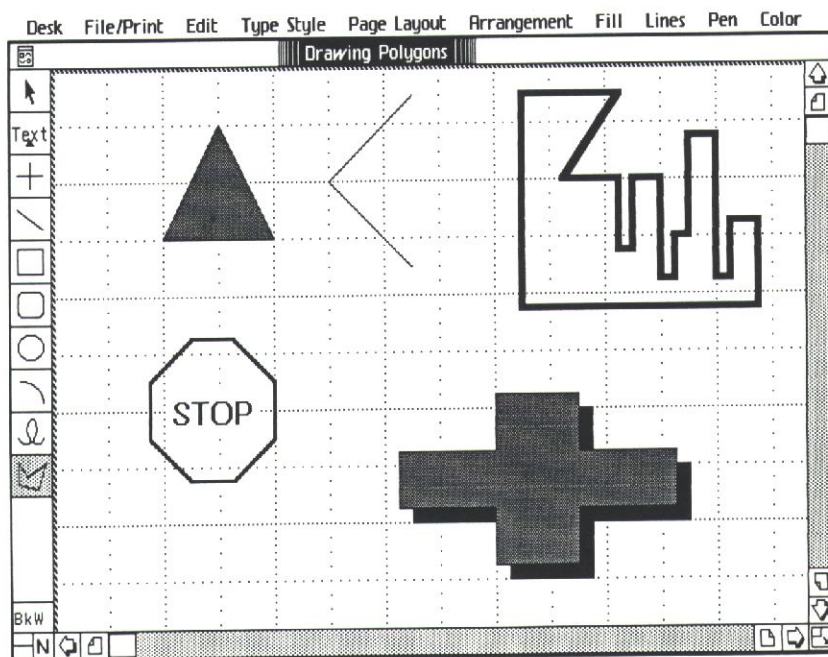


- 5► If your freehand drawing requires additional freehand lines to create the shape you want, repeat steps 1 to 4, above.

You may want to group all the freehand lines used to draw a particular shape. Select all the freehand lines that make up the shape, open the **Arrangement** menu and choose **Group Objects**. This allows you to treat multiple freehand lines as one object.

Drawing Polygons

Polygons are figures with at least two sides. Polygons can be closed figures, like triangles or octagons, or they can be open figures. Use the polygon symbol in the palette to draw polygons. All the polygons shown below were drawn with the polygon symbol.



Polygons are not initially filled with any shade, although you can shade them later.

Each polygon you draw may include up to 100 sides. If you need to draw a figure with more than 100 sides, draw one polygon and then draw another polygon which starts at the edge of the first one.

Polygons may be smoothed to create curved lines, or reshaped. For more information, see these additional procedures to help you refine a polygon:

- Reshaping Objects.
- Smoothing and Unsmoothing Polygons and Freehand Shapes.

To Draw a Polygon:

- 1 ► Click on the polygon symbol in the palette.



2► Move the pointer into the drawing area to the place you want to begin drawing the polygon.

3► Click the mouse button once, and move the pointer in the direction you want to draw the first line. You can continue to adjust the length of the line by pushing it toward the starting point or pulling it away from the starting point.



4► To end one line and begin another, click and release the mouse button. Continue to draw and click until you've drawn all the lines in your polygon.



5► To complete the polygon, either:
a. Join the last line to the first, or
b. Click the mouse button twice.



Opening An Existing Drawing

To Open an Existing Drawing:

When you want to work with an existing drawing, you begin by opening it.

1► Select the disk or diskette on which the drawing is stored by clicking once on its icon.



2► Open the **File/Print** menu and choose **Open "Disk"** or **Open "Diskette"**.



Adding and Changing Text in a Drawing

- 3► If you have filed the drawing in a folder, click once on the folder's icon.



Organization Charts

- 4► If the drawing is in a folder, open the **File/Print** menu and choose **Open "your folder"**.
- 5► Select the drawing by clicking once on its icon.



Marketing Dept Org. Chart

- 6► Open the **File/Print** menu and choose **Open "your drawing"**.

For a shortcut to opening an existing drawing, see Shortcuts and Alternatives later in this chapter.

Text includes letters, numbers, symbols, and punctuation. Text is considered a type of object in LisaDraw. Most of the features that you use to change other kinds of objects, such as moving and duplicating, can also be used with text. However, some features work differently with text, and LisaDraw also provides some special capabilities for working with text.

The procedures on the following pages tell you how to:

- Add text at specific points in a drawing.
- Center text inside other objects.
- Edit text to change its content.
- Delete text.

Before you use the specific procedures to add or change text, read the discussions on Guidelines for Adding Text and Guidelines for Editing Text.

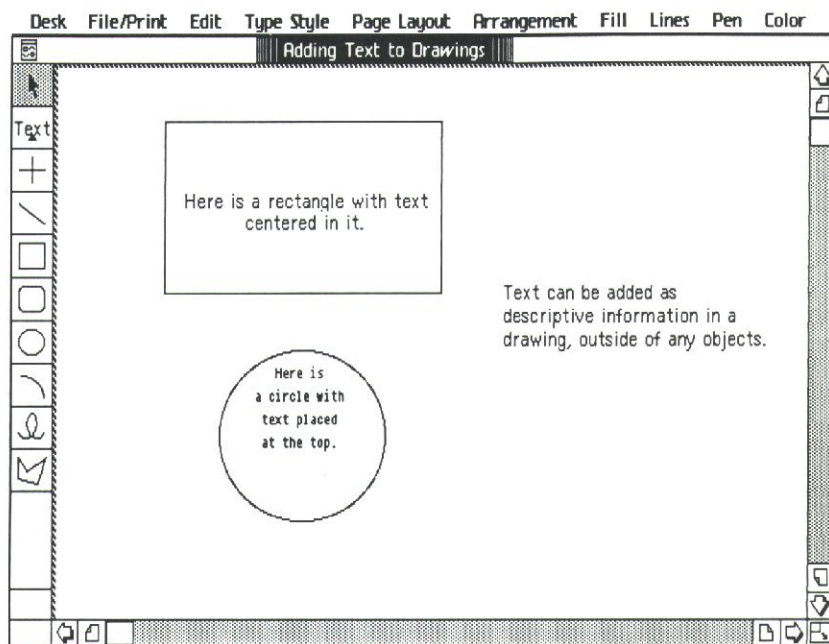
Guidelines for Adding Text to a Drawing

When you begin a new drawing on LisaDraw paper, all text that you enter has certain characteristics:

- The type style and size is set at 12 Point Modern.
- Text will be black when you print it.
- The area surrounding text is white, without any special pattern.
- Text will center around the point you select in the drawing. This is indicated by the position of the caret (the small black triangle) in the text symbol in the palette.

All of these settings can be changed, either before or after you enter text. For more information, see *Changing the Appearance of Text*.

The following illustration shows text added to a drawing in different ways.



**To Add Text at
Specific Points in a
Drawing:**

Adding Text at Specific Points in a Drawing

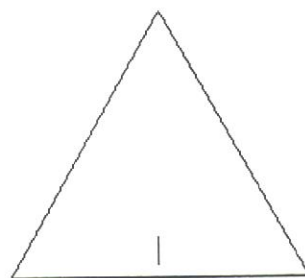
When you want to add text at a specific location in a drawing, either outside of any objects, or inside an object, use the text symbol in the palette, and follow the step-by-step instructions below. If you want to center text within an object, see the next procedure, Centering Text Inside Other Objects.

- 1► Click on the text symbol in the palette.
- 2► Move the pointer into the drawing area to the place you want text to be centered around.

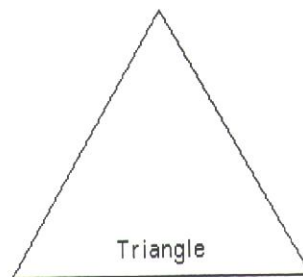
If you want text to align to the left or right of the starting position, open the **Arrangement** menu and choose **Align Left Sides** or **Align Right Sides**. For more information, see Aligning Text under Changing the Appearance of Text.

When you move the pointer into the drawing area, it changes into the text pointer, indicating that the text symbol is activated.

- 3► Click once and the text pointer changes into a blinking vertical bar (the insertion point).



- 4► Type your text. If you make a typing error, press the Backspace key to delete it. If you need more than one line, press the Return key at the end of the first line. Subsequent lines will center below the first line, unless you changed the alignment.



To Center Text Inside Another Object:

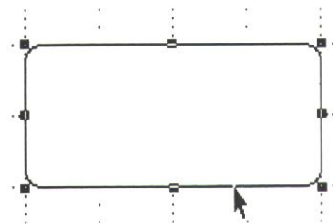
Centering Text Inside Other Objects

You can enter text exactly in the center of another object by using the change symbol in the palette instead of the text symbol. The first line of text you enter in this way is centered horizontally and vertically within a selected object. Additional lines of text are centered beneath the first one.

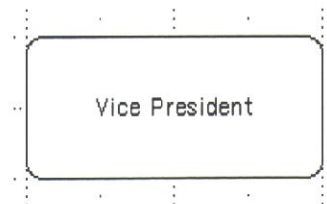
If you have more than one object selected when you start this procedure, text will be placed at the point which is the center of the area bounded by the selected objects.

If you do not have any objects selected when you start this procedure, text will be placed at the center of the drawing.

- 1► Make sure that the caret symbol is in the middle of the text symbol on the palette. If it is not, click on the text symbol, open the **Arrangement** menu, and choose **Align Centers**.
- 2► Click on the change symbol in the palette.
- 3► Select the object in which you want to center text.



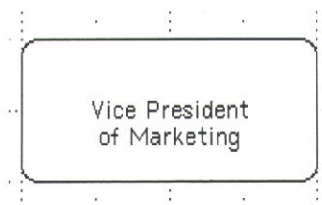
- 4► Begin typing the text. After you type the first letter of your text, the arrow pointer changes into a blinking vertical bar (the insertion point). Any text you type is automatically centered horizontally in the object.



Guidelines for Editing Text

If you make a typing error, use the Backspace key to delete it.

If you need more than one line of text, simply press the Return key after typing the first line of text. The center of the next line aligns itself with the center of the first line.



- 5► If you typed more than one line of text and want to center the lines vertically within the object, you can move them by selecting and dragging them, or you can realign the text in the center of the object. For more information, see *Moving an Object by Selecting and Dragging*, under *Moving and Copying*, or *Aligning Objects*.

When you want to change the content of existing text in a drawing, you can work with either a line of text, or you can edit text as you do in all the Lisa applications.

When you want to change an entire line of text (for example, to replace it or delete it), you can use the change symbol in the palette and select the line of text as one object. You can only select a whole line of text when the change pointer is active. This is useful when you want to move or realign one or more lines of text, and when you want to delete or replace a complete line of text.

When you want to change part of a line of text (for example to add or change a word or character, or to delete a few characters), use the text symbol and then place the insertion point exactly where you want to make the change. Using the text pointer, you can select a character, a word, or the whole line of text, just as you do in other Lisa applications.

You cannot edit text if it is grouped with other objects, including other lines of text. To edit text that is grouped with other objects, ungroup it first. For more information, see *Grouping Objects*, under *Selecting Parts of a Drawing*.

Editing Text

When you want to insert new text into existing text, change a character or word, or perform other general editing functions on existing text, use the procedures that follow. To change the case of text, type style and size, align text to the left or right, or otherwise alter the way text looks, see *Changing the Appearance of Text*.

**To Insert New Text
into an Existing Line
of Text:**

- 1 ► Click on the text symbol in the palette.
- 2 ► Select the position in the existing text where you want to insert new text by clicking once to set the insertion point.
- 3 ► Type the new text.

**To Replace Part of a
Line of Existing Text
with New Text:**

- 1 ► Click on the text symbol in the palette.
- 2 ► Select the text you want to change.
- 3 ► Type the new text.
The new text automatically replaces the selected text.

**To Replace an Entire
Line of Text with
New Text:**

- 1 ► Click on the change symbol in the palette.
- 2 ► Select the line of text that you want to replace.
- 3 ► Type the new text.
The new text automatically replaces the selected text.

**To Remove (Delete)
Existing Characters
in a Line of Text:**

- 1 ► Click on the text symbol in the palette.
- 2 ► Select the text you want to remove.
- 3 ► Open the **Edit** menu and choose **Cut**.
The selected text is removed.

For other ways to remove text from a drawing, see *Shortcuts and Alternatives*.

**Changing the
Appearance of
Text**

You can make a variety of changes to text that's already present in a drawing. The procedures on the following pages show you how to:

- Change the style and size of text in a drawing.
- Change the case of text, turning lowercase letters into capital letters, and capital letters into small letters.
- Make text a title in a drawing.
- Change the pattern surrounding text.
- Align text.

Guidelines for Changing the Appearance of Text

Changing the Style and Size of Text

You can change the appearance of text either before or after you type it.

You can also change the color of text, flip text to create a mirror image of it, or rotate text to show it at a slant in the drawing. For more information, see these additional procedures:

- Changing the Color of Text, under Changing the Color of Objects.
- Rotating Objects, under Changing the Orientation of Objects.
- Flipping Objects Horizontally and Vertically, under Changing the Orientation of Objects.

When you make a change to existing text, you always begin by activating either the text symbol or the change symbol in the palette. Then you select the text to be changed, and choose the new settings you want to use from a LisaDraw menu.

You can change the way your text looks, either before or after you type it.

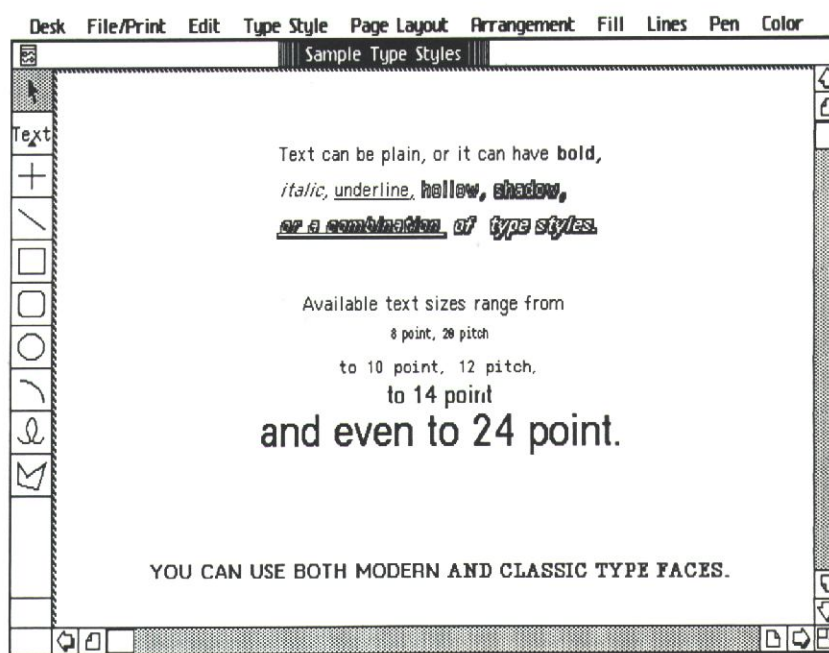
The available choices you can make about type break down into three categories—type face, type size, and type style.

Type face can be either Modern or Classic.

Type size can be a variety of heights and widths. The height of characters is measured in points—the larger the number, the taller the character. The width of characters is measured by pitch, or characters per inch—the larger the number, the narrower the character.

Type style customizes text, and can make it plain, bold, underlined, italic, subscript, superscript, hollow, or shadow. You can combine styles. For example, you can create text that is bold, italicized, and underlined. To remove special effects such as bold and italic, choose plain text.

Some combinations of type face, size, and style are shown below.



To Change the Style and Size of Existing Text:

- 1 ► Select the text you want to change.

You can change type style either

before

or

after

you type.

To change type style on text you've already typed, first select the text you want to change.

- 2 ► Open the Type Style menu and choose an option you want. Release the mouse button.



- 3► Repeat step 2 to choose all the options you want.

Check marks appear next to each item you choose.

Type Style	
Plain Text	⌘P
Underline	⌘U
Bold	⌘B
✓Italic	⌘I
Hollow	
Shadow	
✓Modern	
Classic	
8 Point 20 Pitch	
8 Point 15 Pitch	
10 Point 12 Pitch	
12 Point 10 Pitch	
✓12 Point	
14 Point	
18 Point	
24 Point	

Your text assumes the new styles and sizes.

You can change type style either

before

or

after

you type.

To change type style on text you've already typed,
first select the text you want to change.

Note: If you change the type face to be Modern or Classic, the type face of all selected text is changed, without changing its size. However, when you change the size of selected text, the type face is also changed to the type face (Modern or Classic) which is currently checked in the **Type Style** menu. If you use both Modern and Classic type faces in your drawing and want to change only the size, select the text in one type face first and change the size. Then select the text in the other type face and change the size.

To Check the Type Style and Size in Effect for Existing Text:

To Choose the Style and Size of Text before You Type:

Changing the Case of Text

To Change the Case of Existing Text:

Note: This procedure is only a checking procedure. It does not affect the type style of the word you are checking or any current type style settings.

- 1 ► Select the text you want to check.
- 2 ► Open the **Type Style** menu. The styles and sizes in effect for that text will have check marks next to them.
- 1 ► Click on the text symbol in the palette.
- 2 ► Open the **Type Style** menu and choose the face, size, or style you want.
- 3 ► Repeat step 2 to choose each option you want.
Check marks appear next to each item you choose.
- 4 ► Add the text to the drawing, following the steps shown under Adding and Changing Text.

This text was typed with
bold and underlining chosen
on the Type Style menu.

From now on, everything you type with the text symbol activated will use the options you chose until you repeat the procedure above and change the options.

You can change the case of existing text in a drawing, turning uppercase, or capital letters to lowercase, or small letters, or turning lowercase to uppercase. You'll find this particularly useful if you leave the Alpha Lock key depressed by accident when entering text.

- 1 ► Select the text you want to change.

**you Can easiLy cHange
the caSE of Text**



Making Text a Title

To Make Text a Title:

Changing the Pattern Around Text

To Change the Pattern Surrounding Text:

- 2► To change the text to uppercase, open the **Edit** menu and choose **Make Uppercase**. The selected text changes to be all capital letters.

**YOU CAN EASILY CHANGE
THE CASE OF TEXT**

Or

To change the text to lowercase, open the **Edit** menu and choose **Make Lowercase**. The selected text changes to be all small letters.

**you can easily change
the case of text**

In a title, the first character of each word is normally capitalized, or shown in *uppercase*. You can tell LisaDraw to make selected text into a title, and the first letter of each word is automatically changed to uppercase.

- 1► Select the text you want to become the title.

Image Design logo samples

- 2► Open the **Edit** menu and choose **Make Title**.

The selected text changes so that the first letter of each word is capitalized.

Image Design Logo Samples

You can change the shading and pattern which surrounds text in a drawing to create special effects.

- 1► Select the text which you want to surround with a pattern.
- 2► Open the **Fill** menu and choose the shade or pattern you want to surround the selected text.
- 3► Deselect the text to see the new pattern more clearly.

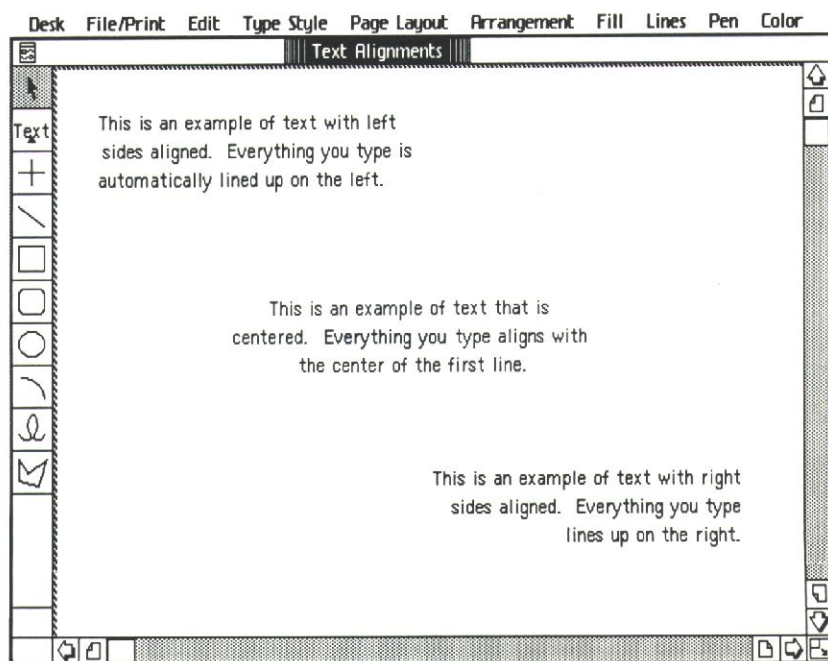
~~Image Design~~

Aligning Text

You can align text either before or after you type it. You can:

- Align Left Sides.
- Align Centers.
- Align Right Sides.

The different text alignment choices available with LisaDraw are shown below.



The position of the caret under the text symbol in the palette indicates the alignment that is set for any new text you type. When you start a new drawing, and when you open a drawing after saving and putting it away, the caret is always in the center position, indicating that new text will be centered. If you change the alignment, you'll see the position of the caret move to reflect the new setting.

When you change the alignment of existing text, it does not affect the alignment in the text symbol. Any new text you type still aligns according to the alignment in the text symbol.

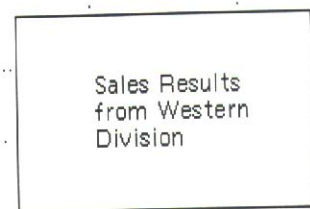
To Change the Alignment of Existing Text:

- 1► Select the lines of text you want to align.



- 2► Open the **Arrangement** menu and choose **Align Left Sides**, **Align Centers**, or **Align Right Sides**.

The text shifts, aligning to the new setting.



To Align Text before You Type It:

- 1► Click on the text symbol in the palette.
- 2► Open the **Arrangement** menu and choose the alignment you want—**Align Left Sides**, **Align Centers**, or **Align Right Sides**.

The caret position in the text symbol changes to reflect your choice.



- 3► Type the text you want inserted in the drawing.

This alignment setting will affect all newly typed text until you change the setting again.

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Changing the Appearance of Objects in a Drawing

The initial style of the objects you create with LisaDraw is a simple one—lines and edges of objects are thin and black, and the insides of objects are plain. Several types of settings are available that allow you to change this style and create special effects in your drawings. These settings are available on three of the LisaDraw menus.

- The **Lines** menu lets you change the thickness of lines and the edges of other objects, and lets you add and change arrows on straight lines.
- The **Pen** menu lets you shade or pattern lines and edges of objects.
- The **Fill** menu lets you shade or pattern the inside of objects.

The procedures that follow show you how to:

- Change lines and edges of objects.
- Change the inside of objects.
- Change the curve on rectangles.

You can also change objects in other ways. See the procedures under these additional headings:

- Aligning Objects.
- Changing the Perspective of Objects.
- Changing the Orientation of Objects.
- Changing the Size and Shape of Objects.
- Changing the Color of Objects.

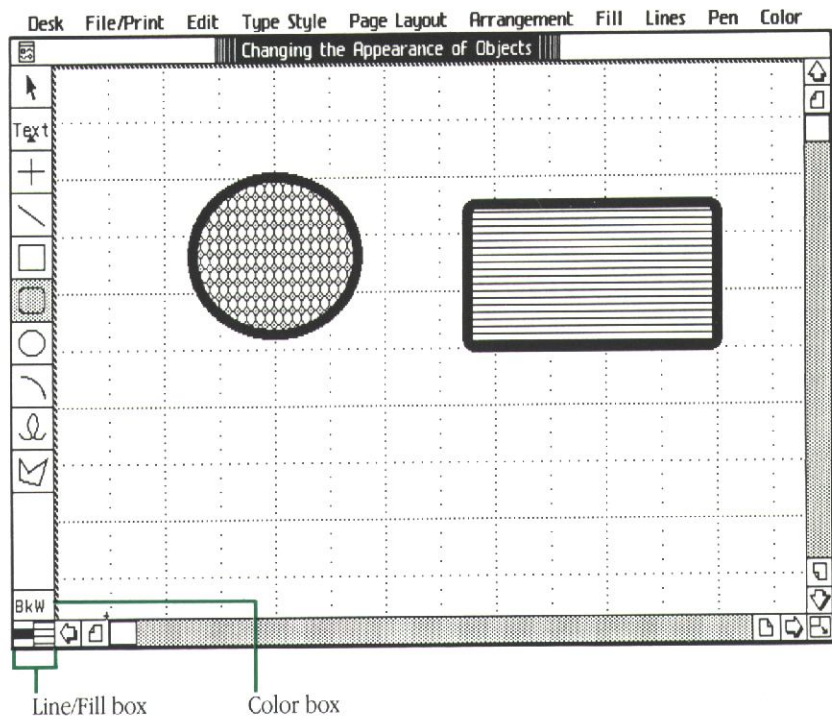
Before you go to the specific procedures in this section, be sure to read the following information on Guidelines for Changing the Appearance of Objects.

Guidelines for Changing the Appearance of Objects

The appearance of objects can be changed either before or after you draw them. All the procedures in this section provide instructions for changing the settings both before and after you draw an object.

Many of the effects you can create by changing the appearance of objects rely on changing line thickness, and changing pen and fill patterns. The line/fill box at the bottom of the palette provides you with information about these settings. It is important to understand what this box tells you to make the best use of the procedures that follow.

Another box, just above the line/fill box, displays initials. This is the color box. The initials in the color box tell you what color objects will print. For more information about the color box and about changing colors, see *Changing the Color of Objects*.



The Line/Fill Box The line/fill box appears when you click on one of the palette symbols, and tells you the following information about an object *before you draw it*:

- When you are drawing a straight line, the line/fill box shows you what thickness and shade or pattern the line will be, unless you change it first. The thickness is set from the **Lines** menu, and the shade or pattern are set from the **Pen** menu.
- When you are drawing any object other than a straight line, the line/fill box is divided into two sections. The left side shows you the thickness and shade or pattern that will be used for the edge, or border, of the object. These settings are chosen from the **Lines** and **Pen** menus. The right side shows you what shade or pattern will be used for the inside of the object. This is set from the **Fill** menu.

**To Change the
Appearance of an
Existing Object:**

**To Change the
Appearance of an
Object before You
Draw It:**

One of the choices on the **Pen** and **Fill** menus is to shade an object "None." When this choice is selected, you will see an "N" appear in the right side of the line/fill box. LisaDraw initially assigns the shade "none" to arcs, polygons, and freehand lines. Objects shaded "None" are treated as non-solid, transparent objects. This means that:

1. You can see other objects through non-solid objects, including the grid lines on grid and auto-grid paper.
2. The inside of non-solid objects cannot be printed with any of the special colors on the color menu, although the edges can.
3. Non-solid objects can only be selected by placing the pointer exactly on the edge.

The Basic Steps in Changing the Appearance of Objects

The steps in changing the appearance of an object follow the same pattern shown here. For specific information about each type of change, see the individual procedures below.

- 1► Select the object or objects you want to change.

An object is selected when small black squares called "handles" appear around it.

(Handles don't appear? Be sure the change pointer in the palette is active. If it is, you may not have positioned the pointer properly. Review the steps in *Selecting Parts of a Drawing*.)

- 2► Open the **Pen**, **Lines**, or **Fill** menu.
- 3► Choose the new setting you want.
- 4► Repeat steps 2 and 3, as needed to create the effect you want.

- 1► Click on the palette symbol you want to use.
- 2► Open the **Pen**, **Lines**, or **Fill** menu.
- 3► Choose the new setting you want.

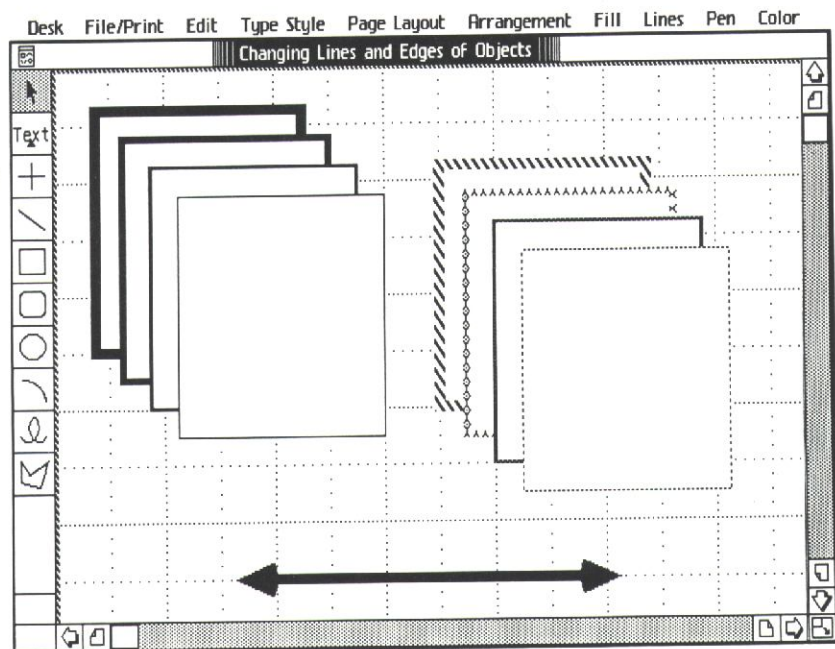
You'll see the settings in the line/fill box change to reflect the new settings.

- 4► Repeat steps 2 and 3, as needed to create the effect you want.

Changing Lines, Arrows, and Edges of Objects

All lines that you make in a drawing—straight lines, arcs, freehand lines, and the edges, or “borders” of other objects—can have their thickness changed, and can be shaded or patterned differently. In addition, straight lines can have arrows added or removed from their ends.

Some of the effects you can create by changing the appearance of lines and edges in a drawing are shown below.



Line settings—that is, thickness and pattern—are associated with all the palette symbols. This means that when you change a line setting before drawing an object, all lines and edges of other objects you draw will use the new settings until you change the settings again. Objects that already exist in the drawing do not change. The exception is arrows: adding an arrow to one of the straight line symbols in the palette does not affect the other straight line symbol.

**To Add an Arrow to
a Line You've
Already Drawn:**

**To Remove an Arrow
from a Line:**

Adding, Removing, and Changing the Direction of Arrows

Straight lines—those drawn with the horizontal/vertical (+) symbol and the diagonal (/) symbol—can display arrows on either or both ends. You can also remove arrows from lines which were drawn with them, and change the direction of an arrow if it points in the wrong direction.

To draw lines with arrows in one step, see Drawing Straight Lines and Arrows, under Drawing Basic Objects.

Note: A line must be at least ¼ of an inch long to display an arrow.

- 1 ► Select the line you want to add the arrow to.

The line is selected when small black squares, called “handles,” appear at each end.



(Handles don't appear? Be sure the change pointer in the palette is active, and try again. You may not have the tip of the pointer positioned exactly on the line.)

- 2 ► Open the **Lines** menu and choose the arrow you prefer.

An arrowhead is automatically added to the line you selected, pointing in the direction the line was first drawn.



- 3 ► If the arrow appears at the opposite end from where you wanted it, open the **Lines** menu and choose **Switch Arrows**.

- 1 ► Select the line from which you want to remove the arrow.



- 2 ► Open the **Lines** menu and choose **No Arrows**.

The arrowhead automatically disappears from the line.



To Change the Direction of the Arrowhead on a Straight Line:

- 1 ▶ Select the line on which you want to change the direction of the arrowhead.



- 2 ▶ Open the **Lines** menu and choose **Switch Arrows**.

The arrowhead disappears from one end of the line and reappears on the other end, pointing in the opposite direction.

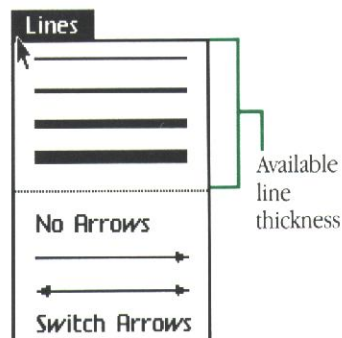


Changing Line Thickness

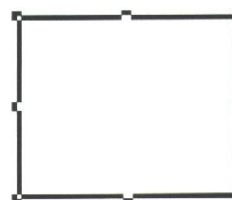
The thickness of all types of lines in a drawing can be changed, whether they are straight lines, arcs, freehand lines, or the edges, or “borders” of other objects.

The top portion of the **Lines** menu shows the available thicknesses for lines, as shown below.

When you first start a drawing, the line thickness is always set at the thinnest setting.

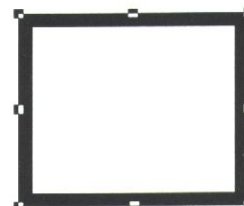


- 1 ▶ Select the object whose line thickness you want to change.



- 2 ▶ Open the **Lines** menu and choose the line thickness you want.

The line thickness changes for the selected object.



To Change Line Thickness of an Existing Object:

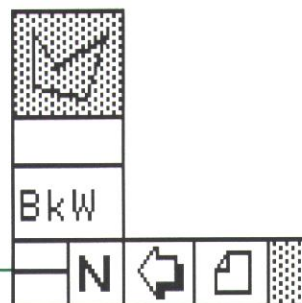
To Change Line Thickness before You Draw:

Note: Changing the line thickness of an object after you draw it does not affect the line thickness of new objects that you will draw—the thickness currently in effect in the line/fill box remains the same.

- 1 ► Click on the drawing symbol in the palette you want to use.

The line thickness currently in effect appears in the line/fill box in the lower lefthand corner of the palette.

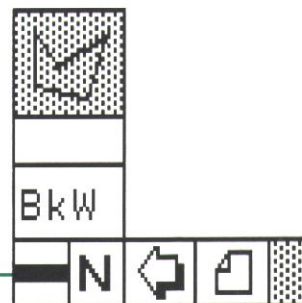
Current line thickness



- 2 ► Open the **Lines** menu and choose the line thickness you want.

The new line thickness appears in the line/fill box.

New line thickness



- 3 ► Draw the object.

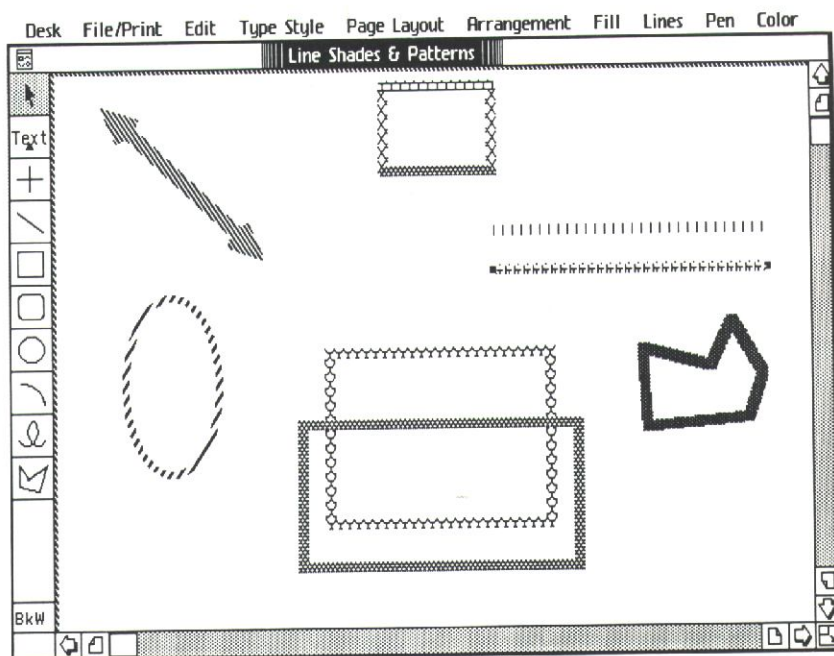
Note: From now on, *all new objects* you draw will use this thickness unless you change it again.

Changing Line Shade and Pattern

The shades (intensity) or patterns (designs) of all types of lines in a drawing can be changed, whether they are straight lines, arcs, freehand lines, or the edges, or “borders” of other objects.

When you begin a new drawing, all lines, whether straight, arc, freehand, or borders of other objects, appear black. This is the darkest, densest pattern available.

Some of the available line shades and patterns are shown below.



Some of the patterns will not show up clearly if you have a very narrow line. To change line thickness, see the previous procedure, Changing Line Thickness.

Note: If you choose the shading "None", you won't see the line or edge of the object on the screen.

To Change Line Shade or Pattern of an Existing Object:

- 1 ▶ Select the object whose line shade or pattern you want to change.



**To Change Line
Shade or Pattern
before You Draw:**

- 2► Open the **Pen** menu and choose the line shade or pattern you want.

The line changes for the selected object.

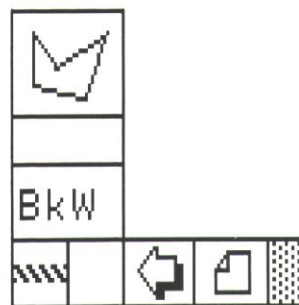


Changing the line shade or pattern of an object after you draw it does not affect the line shade or pattern of new objects that you will draw—the setting currently in effect in the line/fill box remains the same.

- 1► Click on the drawing symbol in the palette you want to use.

The line shade or pattern currently in effect appears in the line/fill box in the lower lefthand corner of the palette.

- 2► Open the **Pen** menu and choose the shade or pattern you want. The new line shade or pattern appears in the line/fill box.



New line pattern —

- 3► Draw the object.

Note: From now on, *all new objects* you draw will use the shade or pattern you selected until you change the setting again.

**Changing the
Insides of Objects**

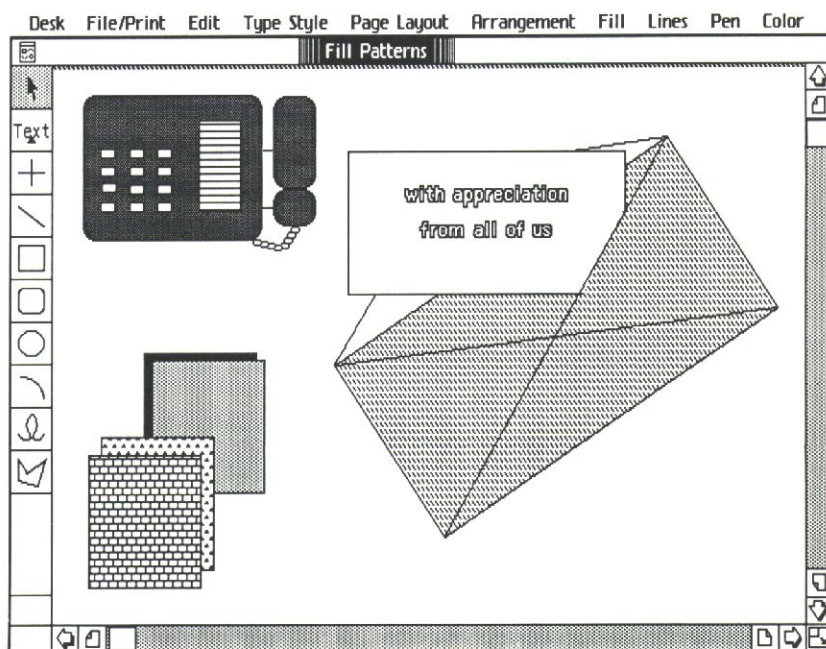
You can change how the insides of objects look by adding shades or patterns to them, and by changing the color they will print. Filling an object with a pattern is discussed below. For information on changing the color for the inside of an object, see *Changing the Color of Objects*.

Fill settings—that is, shade and/or pattern for the inside of an object—are associated individually with each palette symbol. This means that when you change a fill setting before drawing an object, no other palette symbols are affected.

When you change the pattern of the inside of an object, you *fill* it. You can also change the pattern of the line or border around an object. For information on changing the line surrounding an object, see Changing Line Shade and Pattern.

Changing Fill Shades and Patterns

You can fill objects with shades (intensity) or patterns (designs) either before or after you draw them. Some examples of how you can use shades and patterns to enhance drawings are shown below.



You can shade or pattern an object "None," that is, to have no shade or pattern. When you draw objects with no shade or pattern on grid or auto-grid paper, the grid marks will show through the objects. Shading objects "None" is a useful feature when you want to draw overlapping objects because you can see exactly where the objects overlap. For more information, see Changing the Perspective of Objects in a Drawing.

When you begin a new drawing, objects you draw with either of the box symbols or the circle symbol are shaded white. Objects you draw with the arc, freehand, or polygon symbol are shaded "None." You can change the shade or pattern of an object at any time, either before or after you draw the object.

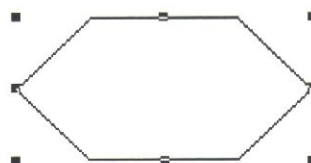
To Fill an Existing Object with a Shade or Pattern:

To Fill an Object with a Shade or Pattern before You Draw It:

If you shade an object "None," and then later color it, LisaDraw automatically changes the pattern to white (the lightest pattern available). However, if the object has been previously colored, and you then change the shade to "None," the color remains associated with the object. No fill color will print for an object which has been shaded "None."

What You Can't Fill with Shade. You cannot fill an object that you construct from lines with a shade or pattern, although you can shade or pattern the lines themselves. For example, if you draw a square with a line symbol instead of a box symbol you will not be able to fill the square with a shade or pattern.

- 1► Select the object you want to shade or pattern.



- 2► Open the Fill menu and choose the desired shade or pattern.
The new shading appears.

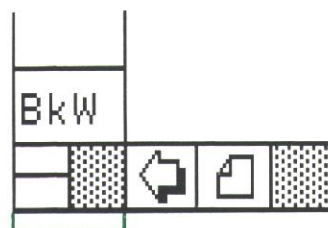


- 1► Click on any palette symbol.

The line/fill box at the bottom of the palette shows the current shade or pattern for the drawing symbol.

- 2► Open the Fill menu and choose the shade or pattern you want.

The shade or pattern you chose appears in the line/fill box in the lower left of the palette.



Line/Fill box



Changing the Curve on Rectangles

3 ► Draw your object.

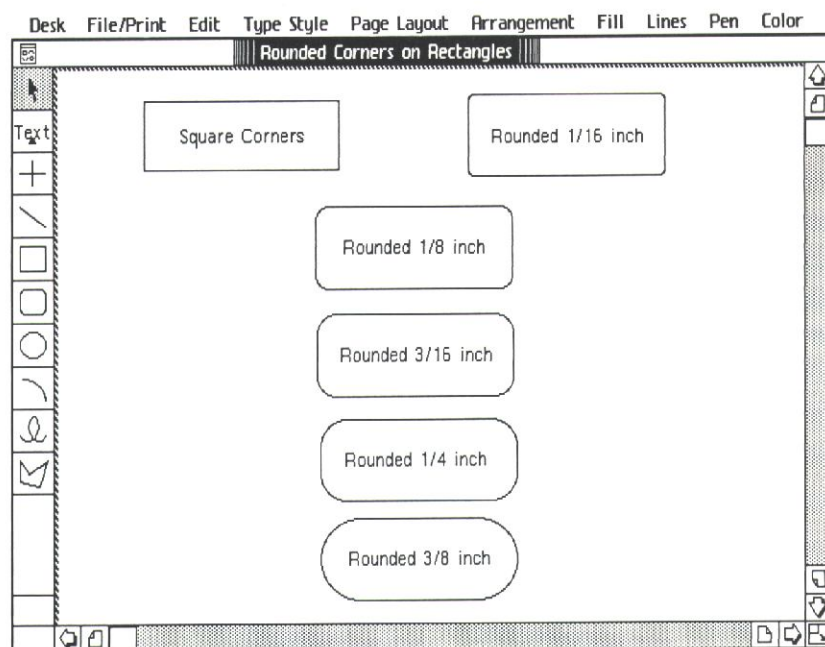


4 ► Deselect the object to see the shade or pattern more clearly.

Note: From now on, any objects you draw *with the same palette symbol* you just used will have the same shade or pattern until you change it again. Other palette symbols are not affected.

The rounded corner box symbol on the palette lets you draw squares and rectangles with rounded corners. You can change the curve used on these corners to meet the needs of your drawing. You can also add curves to the corners of existing squares and rectangles that were drawn with the box symbol on the palette.

You can change the curve either before or after you draw the object. Some of the curves you can use on round-cornered rectangles are shown below.



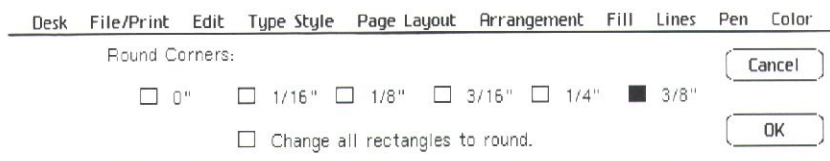
To Change the Curve of Rounded Corners on Existing Squares or Rectangles:

- 1 ► Select the square or rectangle whose corners you want to change.



- 2 ► Open the **Edit** menu and choose **Round Corners**.

The following dialog box appears.



To Change the Curve of Rounded Corners on Squares or Rectangles before You Draw Them:

- 3► Click once on the box next to the size of the corner radius you prefer.
- 4► If you want a square-cornered rectangle to be rounded, click the box next to *Change all rectangles to round*.

- 5► Click the OK box once.

The dialog box disappears and the corners on the selected object are rounded automatically.



- 1► Click on the rounded-corner box symbol in the palette.



- 2► Open the **Edit** menu and choose **Round Corners**.

The following dialog box appears.

Desk	File/Print	Edit	Type Style	Page Layout	Arrangement	Fill	Lines	Pen	Color
Round Corners:									
☐ 0"	☐ 1/16"	☒ 1/8"	☐ 3/16"	☐ 1/4"	☐ 3/8"				
☐ Change all rectangles to round.						Cancel OK			

- 3► Click once on the box next to the size of the corner radius you prefer.
- 4► Click the OK box once.

The dialog box disappears, and you may begin drawing.

All rounded-corner squares and rectangles you draw from now on will have the new corner radius until you change it again.

Changing the Color of Objects

You can change the color that objects will print if you have a color printer. If you do not have a color printer, objects will print in black and white as you see them on the screen.

You can change the color either before or after you draw objects.

The Color Box

The color box appears just above the line/fill box whenever you click on one of the palette symbols, and whenever you select an object in the drawing. It displays the initials of the colors that will be set when you draw a new object, or the initials of the colors of the object that is selected. The color box provides you with this information:

- The left initial shows the line/pattern color. This is the color that unpatterned lines, edges of objects, text, and the dark portion of patterns will print.
- The right initial shows the background color. This is the color that will fill the light areas of an object—the insides of objects, and the light portions of fill and pen patterns.

The line/pattern color is originally set to print black. The background color is originally set to print white.

Note: If you have multiple objects selected in a drawing, the color box shows initials only if all the selected objects are colored the same. If the selected objects have different line/pattern or background color settings, no initials appear in the appropriate side of the color box.

Each object can have one line/pattern color and one background color. If an object has a border with one pattern, and a different fill pattern, only two colors may be assigned—the line/pattern color will be used for all dark portions of the object, and the background color will be used for all light portions of the object.

A chart of the initials and colors is shown below.

Color	Initial
White	W
Black	Bk
Yellow	Y
Green	G
Red	R
Magenta	M
Blue	Bu
Cyan	C

Changing the Color of Text

To Change the Print Color of Existing Text:

The procedures on the following pages show you how to:

- Change the color of text and the area surrounding it.
- Change the color of lines and edges of objects.
- Change the color that fills objects.

When you select text to change the color of it, the initials in the color box tell you this information:

- The left initial, showing the line/pattern color, tells you the color that the text itself will print.
- The right initial, showing the background color, tells you the color that will surround the text.

If you surround the text with a pattern, the dark portion of the pattern will print the same color as the text itself.

- 1 ► Select the text for which you want to change the color.



The color box at the bottom of the palette shows the initials of the current colors for the selected text.



- 3 ► Open the **Color** menu and choose **Line/Pattern Color**.
- 4 ► Open the **Color** menu again and choose the color you want the text to become.

You won't see the color change on the screen, but you will see the initials of the new color in the left side of the color box.



To Change the Print Color of Text before You Type It:

Note: You cannot change the color of text before you type it if you are using the change symbol to center text inside an object.

- 1▶ Click on the text symbol in the palette.

The color box at the bottom of the palette shows the initials of the current color settings.



- 2▶ Open the **Color** menu and choose **Line/Pattern Color**.
- 3▶ Open the **Color** menu again and choose the color you want the text to become.

The left side of the color box changes to show the initials of the new color you have chosen.



- 4▶ Type the text you want to insert with the new color.

- 1▶ Select the text for which you want to change the color. The color box at the bottom of the palette shows the initials of the current color settings for the selected text and the area surrounding it.



- 2▶ Open the **Color** menu and choose **Background Color**.
- 3▶ Open the **Color** menu again and choose the color you want to surround the text.

You won't see the color change on the screen, but you will see the initials of the new color in the right side of the color box.



To Change the Print Color of the Area Surrounding Text:

Changing Line Color

To Change the Line Color of an Existing Object:

To Change the Color of a Line before You Draw It:

You can change the color that lines and edges of other objects print. When lines are dark, and you haven't added a pattern to them from the **Pen** menu, the Line/Pattern color setting is used to set the new color. If you have added a pattern to the line, the dark portions of the pattern are set with the Line/Pattern color, and the light portions are set with the Background color. For information on adding patterns to lines, see Changing Line Shade and Pattern, under Changing the Appearance of Objects.

Note: If you change the color of a line which has been patterned "None," LisaDraw automatically patterns it white (the lightest available pattern). However, if the line has been previously colored, and you then change the shade to "None," the color remains associated with the line. No line color will print when it has been shaded "None."

- 1 ► Select the object for which you want to change the line color.
- 2 ► Open the **Color** menu and choose **Line/Pattern Color**.
- 3 ► Open the **Color** menu again and choose the color you want the line to become.

You won't see the color change on the screen, but you will see the initials of the new color appear in the left side of the color box.

- 1 ► Click on one of the symbols in the palette.

The color box at the bottom of the palette shows the initials of the colors currently active.

- 2 ► Open the **Color** menu and choose **Line/Pattern Color**.
- 3 ► Open the **Color** menu again and choose the color you want the line to become.

The color box changes to show the initials of the new color you have chosen on the left.

- 4 ► Draw the object you want to have the the new line color.

Note: From now on, *all new objects* you draw will use the foreground color you selected until you change the setting again.

Changing Fill Color

To Change the Fill Color of an Existing Object:

To Change the Fill Color of an Object before You Draw It:

When you start a drawing, the fill, or *background color*, is set as white. You can change it to any of the colors provided in the **Color** menu.

If you have added a fill pattern to the object, the dark portions of the pattern are set with the Line/Pattern color, and the light portions are set with the Background color. For information on adding fill patterns to objects, see *Changing the Inside of Objects*, under *Changing the Appearance of Objects*.

You can also display the initials of the fill color inside all objects in a drawing. When you do so, any patterns inside of objects are replaced by the initials of the background colors they will print until you change the setting back. The exception is objects which use black or white for the fill color—these are shown on the screen as black or white.

- 1▶ Select the object for which you want to change the fill color.

The color box changes to show the initials of the colors now active for the selected object. The fill color is shown by the initial on the right.

- 2▶ Open the **Color** menu and choose **Background Color**.

- 3▶ Open the **Color** menu again and choose the color you want the object to be filled with.

You won't see the color change on the screen, but you will see the new initials shown in the color box.

- 1▶ Click on the drawing symbol in the palette that you want to use.

The color box at the bottom of the palette shows the initials of the colors currently active.

- 2▶ Open the **Color** menu and choose **Background Color**.

- 3▶ Open the **Color** menu again and choose the fill color.

The color box changes to show the initials of the new color you have chosen. The fill, or background color, is shown by the initial on the right.



Initial of new background color



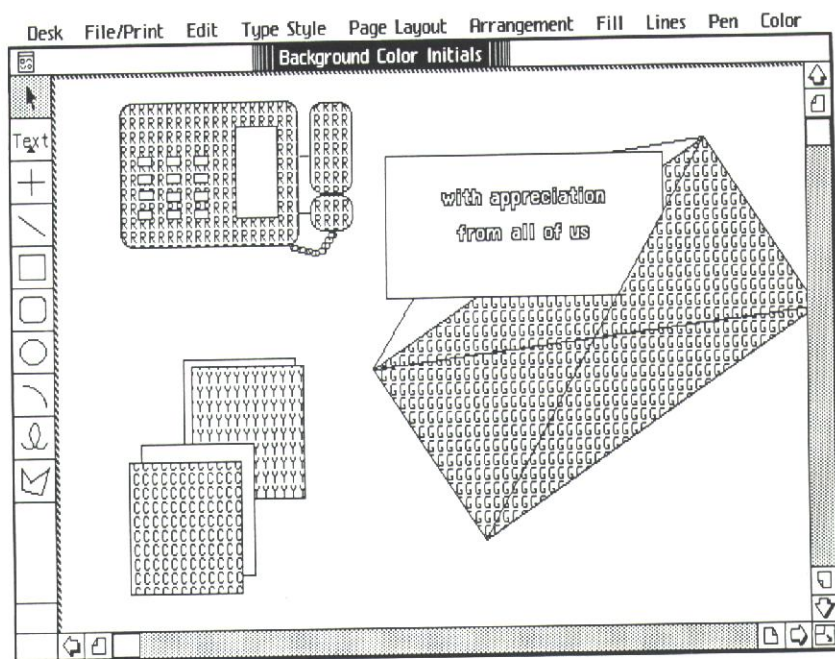
**To Show Color by
Initials:**

- 4 ► Draw the object you want to have the new fill color.

Note: From now on, any objects you draw with this palette symbol will use the background color you just specified, until you change the setting again.

- 1 ► Open the **Color** menu and choose **Show Background Colors**.

The drawing changes, so that all objects are filled with the initials of the background colors they will print. Any patterns that are set no longer display.



- 2 ► To hide the initials of the colors and see the fill shade or pattern of objects, open the **Color** menu and choose **Show Fill Patterns**.

Moving and Copying

Moving Objects

Objects in your drawings can be moved or copied to another location in the same drawing, or to another drawing.

There are two ways to move objects:

- Select what you want to move and drag it with the pointer.
- Cut what you want to move from one location in a drawing and paste it in another location.

Select and drag objects when you want to:

- Move an object to another location that you can currently see in the LisaDraw window.
- Move a full line of text.

Cut and paste objects when you want to:

- Move an object to a location in the drawing which requires that you scroll the LisaDraw window.
- Move an object to another drawing.
- Move an object to another Lisa tool document.
- Move part of a line of text.
- Move an object in front of or behind another object to create a particular perspective.

For information on moving objects to other Lisa tools, see Using LisaDraw with Other Applications.

**To Move an Object
by Selecting and
Dragging It:**

Moving an Object by Selecting and Dragging

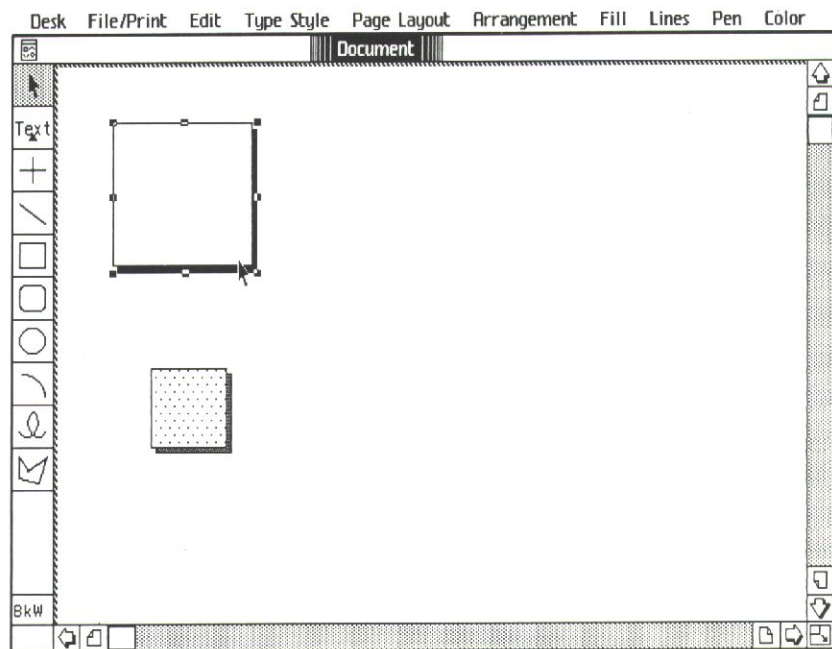
When you want to move an object a short distance, it's easy to select and drag it to the new location.

You can move individual objects, and you can select multiple objects and move them at the same time. Moving objects at the same time keeps them the same distance from one another. For help in selecting multiple objects, see *Selecting Parts of a Drawing*.

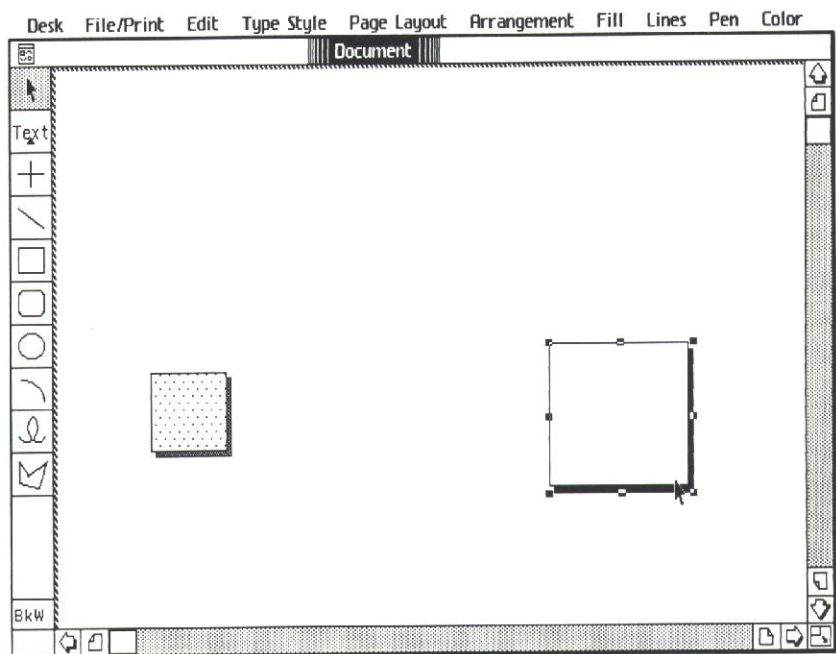
You cannot move part of a line of text by selecting and dragging it, although you can select and drag a complete line of text. To move part of a line of text, see *Moving an Object by Cutting and Pasting It*.

- 1 ► Place the pointer inside the object, or on the object's edge, and press and hold down the mouse button. This action also selects the object, if it isn't selected already.

Don't put the pointer on a selection handle, or you may change the shape of the object instead of moving it. If that happens, open the **Edit** menu, choose **Undo Last Change**, and begin this procedure again.



- 2► Keep the mouse button held down and move the pointer around the drawing area. The object automatically follows.
(Object doesn't move? You probably didn't have the pointer on the object. Try again.)
- 3► When the object is in the desired position, release the mouse button.



To Move Several Objects at Once by Selecting and Dragging:

- 1► Select all of the objects you want to move together.
- 2► Place the pointer in the center or on the edge of any of the selected objects. Press and hold the mouse button down and move the pointer to the desired position. The objects automatically follow.

If you have selected a large set of objects to move, you see a boundary box appear on the screen as you drag, instead of the objects. The objects reappear when you release the mouse button.

Note: Don't place the pointer on a selection handle, or you may accidentally shrink or stretch the objects. If this should happen, open the **Edit** menu and choose **Undo Last Change**.

**To Move an Object
or Line of Text
by Cutting and
Pasting It:**

**To Move an Object
in Front of or Behind
an Existing Object:**

Moving an Object by Cutting and Pasting

You can cut an object from one location in a drawing and paste it in another location in the same drawing, or in another drawing. You can even paste it in front of or behind other objects.

You can move individual objects by cutting and pasting, and you can select multiple objects and cut and paste them at the same time. Moving objects at the same time keeps them proportionate in distance to one another. For help in selecting multiple objects, see *Selecting Parts of a Drawing*.

- 1 ► Select the object you want to move.
- 2 ► Open the **Edit** menu and choose **Cut**.

The selected object disappears from the drawing and is placed on the Clipboard.

- 3 ► Click on the place in the drawing area where you want the center of the object to be. Scroll the drawing first, if you need to.
- 4 ► Open the **Edit** menu and choose **Paste**.

The object appears at the location where you made the selection.

- 1 ► Select the object you want to move, open the **Edit** menu, and choose **Cut**.

The selected object disappears from the drawing and is placed on the Clipboard.

- 2 ► Select the object you want to place the moved object in front of or behind.
- 3 ► Open the **Arrangement** menu and choose **Paste in Front** or **Paste Behind**.

The object appears in front of or behind the selected object, and slightly to the side if the objects are the same size. For more information on objects that overlap, see *Changing the Perspective of Objects*.

Copying Objects

There are two ways to reproduce objects in a drawing. You can:

- Duplicate objects.
- Copy and paste objects.

Duplicate an object when you want to:

- Place the copy in a part of the drawing that is now shown in the LisaDraw window.
- Make a number of fast, successive copies of the same object or objects.
- Copy a complete line of text.
- Create a three-dimensional image.

Copy and paste an object when you want to:

- Place the copy in a part of the drawing that is not now shown in the LisaDraw window, and requires scrolling to get to.
- Copy the object to another drawing.
- Copy the object to another Lisa tool document.
- Copy part of a line of text.
- Paste the copy in front of another object.
- Paste the copy behind another object.

For information on copying objects to other Lisa tools, see Copying Information from LisaDraw to LisaWrite, under Using LisaDraw with Other Applications.

Duplicating Objects in a Drawing

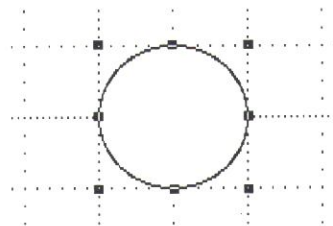
“Duplicate” places an exact replica of an object on top of and slightly to the right of the original object in the drawing. You can then move the duplicate around the drawing area by selecting and dragging it.

You can also duplicate objects so that the duplicates automatically line up in a particular order. This is called auto-duplication.

Note: You cannot duplicate part of a line of text. You must duplicate the entire line. To reproduce part of a line of text, see Copy and Paste.

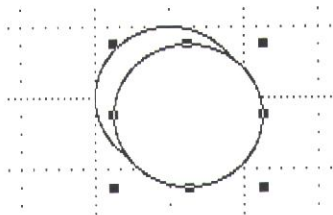
**To Duplicate a
Single Object,
Multiple Objects, or
a Line of Text:**

- 1 ► Select what you want to duplicate.



- 2 ► Open the **Edit** menu and choose **Duplicate**.

The duplicate appears on top of and slightly to the right of the original object. You can now move or change the duplicate.

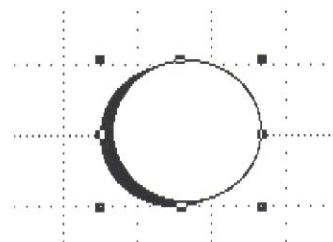


- 3 ► To make a second duplicate, repeat the procedure above.

Note: For another way to duplicate objects, see Shortcuts and Alternatives.

Note: This procedure is easiest with auto-grid paper in effect.

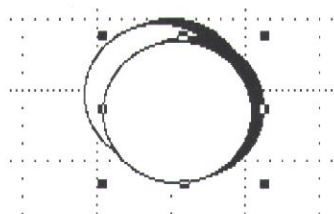
- 1 ► Open the **Page Layout** menu and choose **Auto-Grid Paper**.
- 2 ► Select the object you want to duplicate.



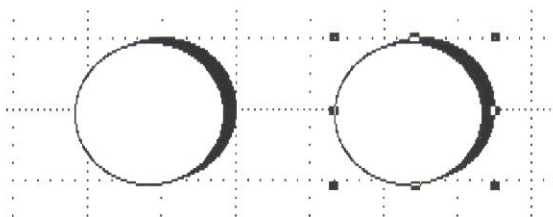
**To Duplicate
Identical Objects
and Line Them Up in
a Particular Order
(Auto-Duplication):**

- 3► Open the **Edit** menu and choose **Duplicate**.

A duplicate of the object appears on top of and slightly to the right of the original.

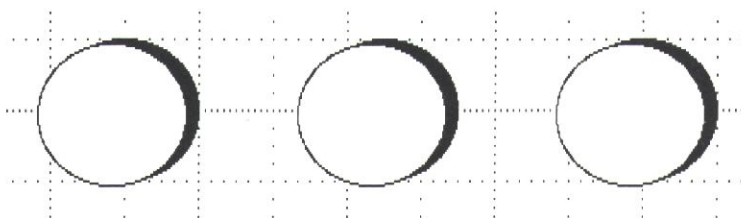


- 4► Move the duplicate to the position you want in the drawing by selecting and dragging it.



The next duplicate will appear the same distance and direction from this one as the first duplicate is from the original. For help moving objects, see *Moving an Object by Selecting and Dragging*.

- 5► Make a duplicate of the duplicate by repeating steps 1 through 4 above.



From now on, each duplicate automatically lines up with the others.

**To Copy and Paste
an Object or a Line
of Text:**

**To Copy and Paste
the Object in Front
of or Behind
Another Object:**

**Moving and Copying
Objects to Another
Drawing**

Copy and Paste

Using “Copy” makes a copy of the selected object or objects and places it on the Clipboard. The original remains where it was. You can paste the copy on another part of the same drawing, or in a different drawing. You can also paste the copy in front of or behind existing objects in the drawing.

The copy remains on the Clipboard until you copy or cut something else. As long as the object remains on the Clipboard, you can paste as many copies of it in different places as you want.

- 1 ► Select what you want to copy.
- 2 ► Open the **Edit** menu and choose **Copy**.

A copy of the selected object is placed on the Clipboard.

- 3 ► Select the place in the drawing area where you want to center the copy. Scroll the drawing first, if you need to.
- 4 ► Open the **Edit** menu and choose **Paste**.

A copy of the object appears, centered around the point you selected.

- 1 ► Select what you want to copy, open the **Edit** menu, and choose **Copy**.
- 2 ► Select the object that you want to paste the copy in front of or behind.
- 3 ► Open the **Arrangement** menu and choose **Paste in Front** or **Paste Behind**.

A copy of the object appears in front of or behind the selected object, and slightly to the side if the objects are the same size. For more information on objects that overlap, see *Changing the Perspective of Objects*.

You can move or copy one or more objects from one drawing to another. You can move individual objects by cutting them from one drawing and pasting them in another, and you can select multiple objects and cut and paste them at the same time. Moving objects at the same time keeps them the same distance from one another.

You can also move objects from LisaDraw to other Lisa tools. For more information, see *Using LisaDraw with Other Applications*.

To Move or Copy an Object to Another Drawing:

- 1▶ Select what you want to move or copy from the current drawing.
- 2▶ To move an object, open the **Edit** menu and choose **Cut**. To copy an object, open the **Edit** menu and choose **Copy**.
- 3▶ Reduce the size of the current LisaDraw window by using the size control box at the lower right.
 - a. Move the pointer to the size control box.
 - b. Press and hold down the mouse button, moving the pointer and the size control box up away from you.
 - c. When the current drawing occupies about half the Lisa desktop, release the mouse button.
- 4▶ Open the drawing into which you want to place the object or objects by double clicking on the drawing's icon.
- 5▶ Select the position in the second drawing where you want to center the object.
- 6▶ Open the **Edit** menu and choose **Paste**.

The object appears in the new drawing.

Deleting Objects

There are two ways to delete objects from a drawing. You can:

- Clear objects.
- Cut objects.

Use **Clear** when you want to:

- Permanently delete one object, several objects, most objects, or the entire drawing at once.
- Delete a complete line of text.

Use **Cut** when you want to:

- Retrieve a cut entry from the Clipboard by pasting it back into a drawing.
- Delete part of a line of text.

Clearing Objects

To Clear a Single Object, Multiple Objects, or an Entire Line of Text:

To Clear Most Objects:

To Clear the Entire Drawing:

Cutting Objects

Use **Clear** when you are sure you want to delete something and won't need a copy of it.

You can clear:

- A single object, multiple objects, or an entire line of text.
- Most objects in a drawing at one time.
- The entire drawing at once.

You cannot clear part of a line of text.

If you clear something and then want it back, you can retrieve it before doing anything else by opening the **Edit** menu and choosing **Undo Last Change**.

1 ► Select everything you want to clear.

2 ► Open the **Edit** menu and choose **Clear**.

Everything you selected disappears from the drawing.

1 ► Open the **Edit** menu and choose **Select All**.

2 ► Hold down the Shift key and click the mouse button once on each object you want to keep in the drawing.

3 ► Open the **Edit** menu again and choose **Clear**.

The objects you clicked on remain in the drawing.

1 ► Open the **Edit** menu and choose **Select All**.

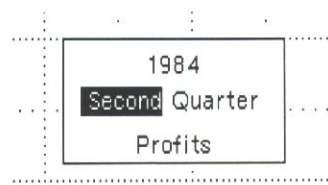
2 ► Open the **Edit** menu again and choose **Clear**.

All the objects in the drawing are removed from the drawing.

Cutting objects from a drawing deletes anything that is selected and places it on the Clipboard. You can paste the cut material somewhere else in the drawing or in another drawing anytime before you cut or copy something else. To paste the objects somewhere else, see **Moving Objects**.

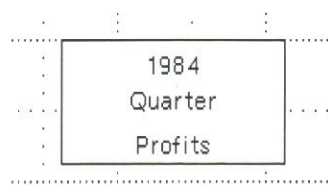
To Cut Part of a Line of Text:

- 1▶ Click on the text symbol in the palette.
- 2▶ Select the text you want to cut.



- 3▶ Open the **Edit** menu and choose **Cut**.

The selected text is removed from the drawing and placed on the Clipboard.



To Cut a Single Object, Multiple Objects, or an Entire Line of Text:

- 1▶ Select what you want to cut.
- 2▶ Open the **Edit** menu and choose **Cut**.

The object disappears from the drawing and is placed on the Clipboard.

To Cut Most Objects:

- 1▶ Open the **Edit** menu and choose **Select All**.

The text in the drawing darkens, and handles appear around all the objects.

- 2▶ Hold down the Shift key and click once on each object you want to *keep* in the drawing.

- 3▶ Open the **Edit** menu and choose **Cut**.

The objects you clicked on remain in the drawing. The other objects are placed on the Clipboard.

Protecting Objects

Once you complete a complicated portion of a drawing, you may want to lock it into place to keep it from being accidentally moved or changed in any way, including accidentally deleting it. You may also want to lock all the objects in a drawing which you have completed. You can add text to locked objects, and add other objects to the drawing, but you cannot change locked objects in any other way unless you unlock them first.

To Lock an Object or Group of Objects into Place:

- 1▶ Select the object or group of objects you want to lock into place.
- 2▶ Open the **Arrangement** menu and choose **Lock Objects**.

To Unlock an Object or Group of Objects:

To Lock All the Objects in a Drawing:

To Unlock All the Objects in a Drawing:

Aligning Objects

- 1▶ Select the object or group of objects you want to unlock.
- 2▶ Open the **Arrangement** menu and choose **Unlock Objects**.

- 1▶ Open the **Edit** menu and choose **Select All**.
- 2▶ Open the **Arrangement** menu and choose **Lock Objects**.

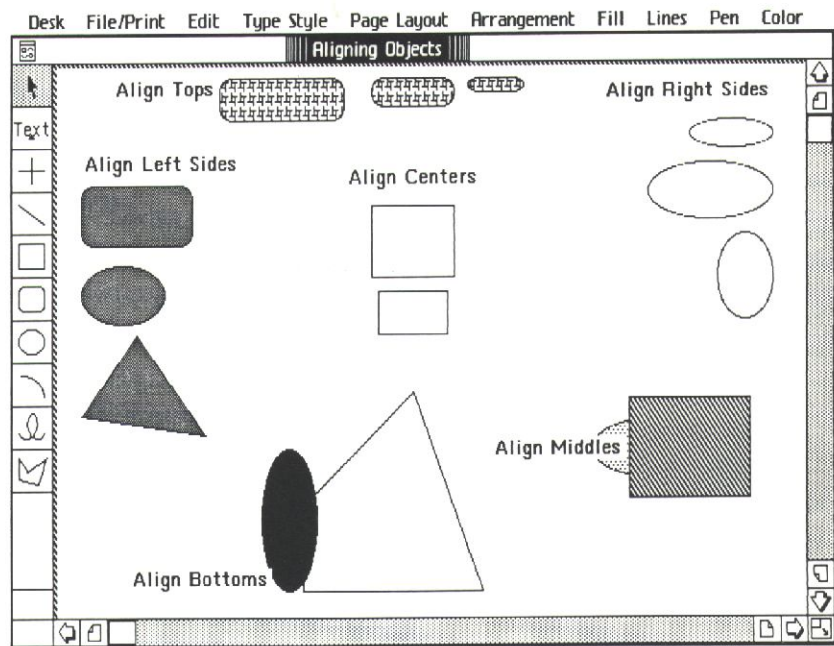
- 1▶ Open the **Edit** menu and choose **Select All**.
- 2▶ Open the **Arrangement** menu and choose **Unlock Objects**.

Align means to line up. LisaDraw provides you with a number of ways to align objects after you draw them. You can align objects:

- By their left sides.
- By their horizontal centers.
- By their right sides.
- By their tops.
- By their vertical centers.
- By their bottoms.
- To Auto-Grid.

You cannot align objects when they are grouped. If you have grouped objects and want to align them, you must ungroup them first. See *Grouping Objects*, under *Selecting Parts of a Drawing*.

A drawing using various alignments is shown below.



To Align Objects or Objects and Text Together:

- 1► Select all the objects you want to align.
- 2► Open the **Arrangement** menu and choose the alignment you want.
The objects align automatically.

If you don't like the alignment, open the **Edit** menu and choose **Undo Last Change** to return the objects to their original positions.

Aligning Objects to Auto-Grid

If you haven't changed the paper type of your drawing, your drawing is already on auto-grid paper. When you align objects on the auto-grid, the objects line up exactly at ruler divisions. This makes them easy to measure.

You can also draw objects on either plain paper or grid paper, and then align them to the auto-grid. Because the objects line up exactly at ruler divisions, the objects may change shape slightly as they align to the auto-grid.

For more information about plain paper and paper with grids, see **Changing Paper Types**.

To Align Objects to the Auto-Grid:

- 1► If your drawing uses plain or grid paper, open the **Page Layout** menu again and choose **Auto-Grid Paper**.
- 2► Select all the objects you want to align to the auto-grid. Use one of the selection techniques discussed in *Selecting Parts of a Drawing*.
- 3► Open the **Arrangement** menu and choose **Align to Auto-Grid**.
The objects shift, aligning to the auto-grid.

Changing the Perspective of Objects in a Drawing

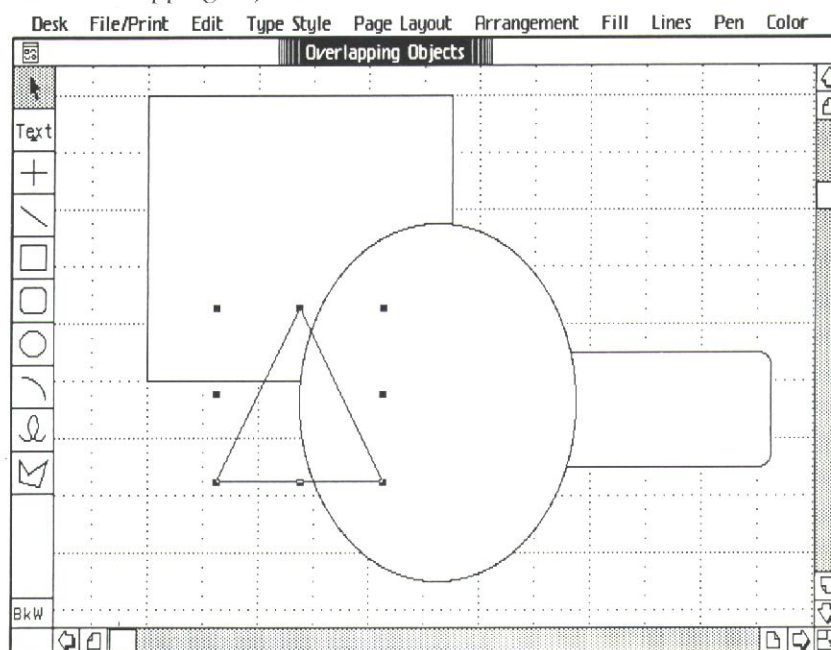
Overlapping Objects

The *perspective* in a drawing is the sense of depth created when an object is drawn as it would appear if viewed from a certain angle.

Depth can be created in your drawings by overlapping objects, shifting them around, and adding different shades to background and foreground objects. By combining these effects, you can create the image of three-dimensional objects.

You can draw objects so that they overlap one another, simply by selecting the point to begin drawing near or on top of an existing object. You can also drag or paste a copy of an object in front of or behind an existing object. For information on pasting copies of objects in front of or behind objects, see *Moving and Copying*.

Some overlapping objects are shown below.



Solid and Non-Solid Objects

What you see when you overlap one object on top of another depends on the shading assigned to the object. To create the effect you want, it is important to understand how LisaDraw treats *solid* and *non-solid* objects.

A *solid* object is any object (other than text or a straight line) which is filled with a shade or pattern from the **Fill** menu. When you start a drawing, objects drawn with the circle, box, and round-cornered box symbols are automatically filled with a solid light pattern that looks white, and so are drawn as solid objects.

A *non-solid* object is any object (other than text or a straight line) which is shaded "None" from the **Fill** menu. When you start a drawing, objects drawn with the arc, freehand line, and polygon symbols are automatically shaded "None," and so are drawn as non-solid objects. It is also important to note that any objects you create by drawing and connecting individual straight lines are always non-solid objects, because they cannot be filled with a shade.

When you draw a solid object so that it overlaps another object (except text), the solid object covers the other object, or a portion of it, whether the other object is solid or non-solid.

When you draw one non-solid object over another, you see the outline of both objects.

Text is automatically placed on top of objects, that is, in front of them. You can move text behind an object by first grouping two or more lines of text or a line of text and an object.

Altering the Perspective of Overlapping Objects

You can alter the perspective angle or create more depth by overlapping objects in a drawing, and by moving one of the objects so that different amounts of the two objects are shown. In addition, you can send an object (or objects) to the back of a drawing, or bring an object to the front.

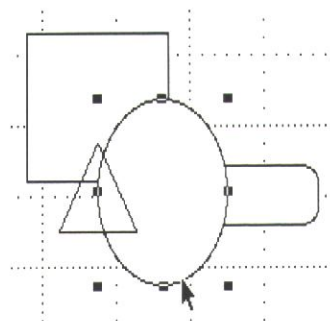
Note: The following procedures only work if you have at least two objects in your drawing, partially or completely covering each other.

Sending an Object to the Back of a Drawing or Bringing It to the Front

When you have overlapping objects in a drawing, you can change the appearance of depth by sending an object that is in front to the back, or bringing one from the back to the front.

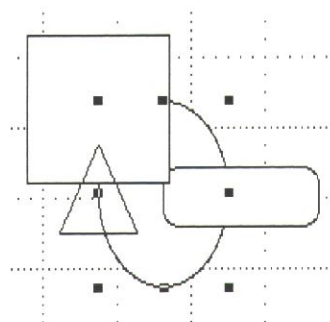
To Send an Object to the Back of a Drawing or Bring It to the Front:

- 1 ► Select an object that is in front.



- 2 ► Open the **Arrangement** menu and choose **Send to Back** or **Bring to Front**.

The object automatically moves to the back or the front. If you sent the object to the back, grid handles that are “covered” by the object on top show through, in case you want to edit the object in back.



- 3 ► To make the grid handles disappear, deselect the object by clicking once in an empty part of the drawing area.

You can create the image of three-dimensional objects in your drawings. This procedure shows you how.

If you create a three-dimensional object and then want LisaDraw to treat it as one object, group the objects together. For information on grouping, see Grouping Objects under Selecting Parts of a Drawing.

Creating a Three-Dimensional Image

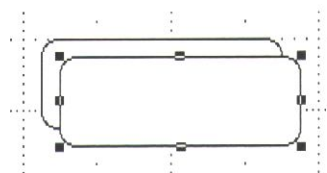
To Overlap Objects and Create a Three-Dimensional Image:

- 1▶ You will not be able to make fine adjustments in this procedure with auto-grid paper in effect.

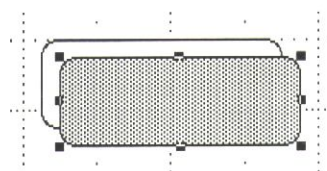
If you are working with **Auto-Grid Paper**, change the paper type by opening the **Page Layout** menu and choosing either **Grid Paper** or **Plain Paper**.

- 2▶ Draw an object.
- 3▶ Select the object.
- 4▶ Open the **Edit** menu and choose **Duplicate**.

The duplicate is selected.



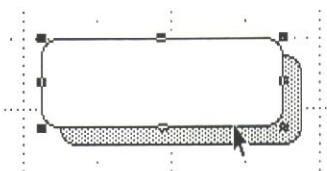
- 5▶ If you want to increase the impression of depth, open the **Fill** menu and choose a different shade or pattern for the duplicate object.



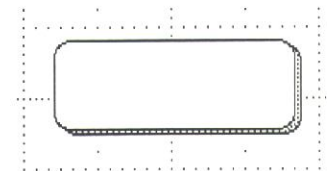
- 6▶ With the duplicate object still selected, open the **Arrangement** menu and choose **Send to Back**.

The duplicate moves behind the original object.

- 7▶ Move the pointer to the edge of the original object and click once to deselect the duplicate and select the original object.



- 8▶ Move the original object around until the two objects appear to be one three-dimensional object. For help moving the object, see *Moving an Object by Selecting and Dragging It*.



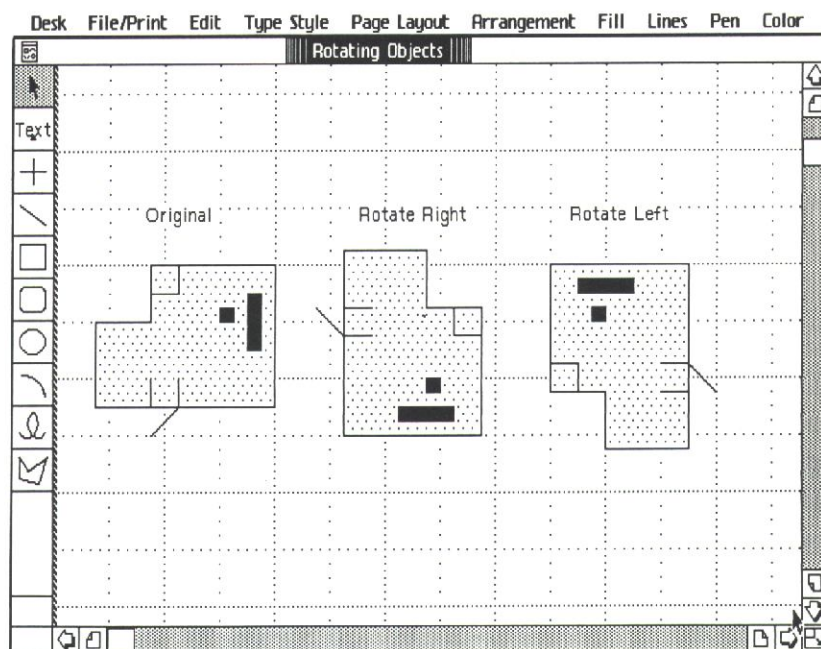
Changing the Orientation of Objects

Rotating Objects

The *orientation* of objects is the direction in which they are positioned with respect to the top and bottom of the page. You can orient objects differently by rotating them to the left or right, and by flipping them horizontally or vertically to create a reversed image.

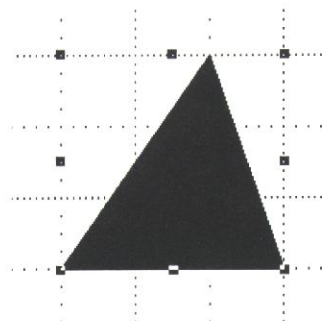
You can rotate objects 90 degrees to the left or right. Text can be rotated; however, it can't be changed when in a rotated position.

The objects shown below show the effect of rotating.



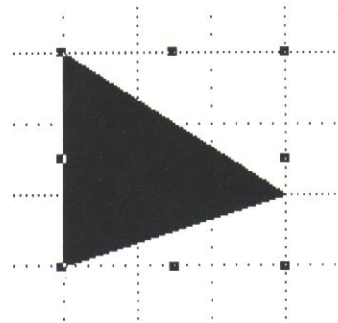
To Rotate an Object 90 Degrees:

- 1 ► Select the object you want to rotate.



- 2 ► Open the **Edit** menu and choose either **Rotate Left** or **Rotate Right**.

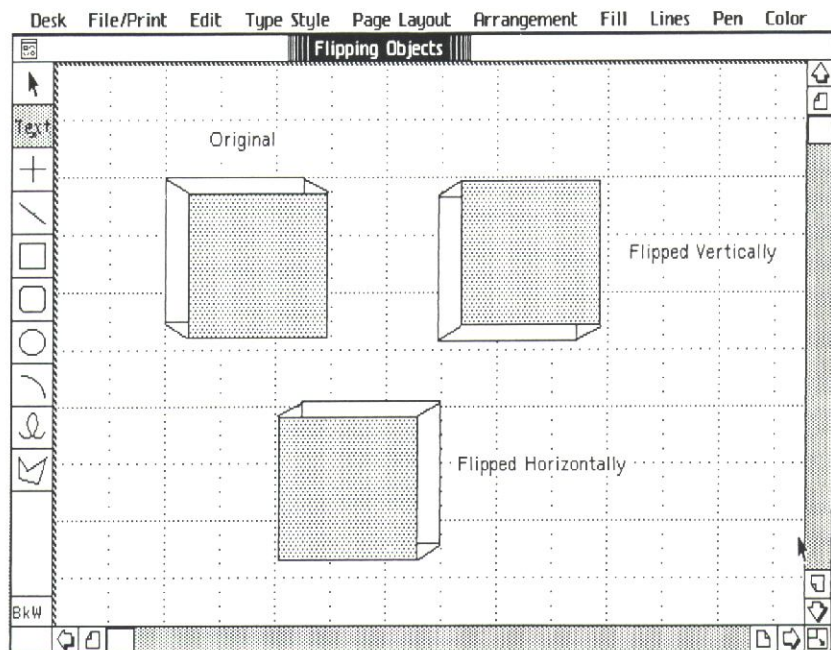
The object rotates 90 degrees in the direction you chose.



Flipping Objects Horizontally and Vertically

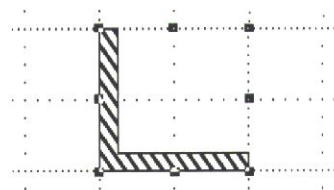
You can create a mirror image, or reflection of an object in a drawing by flipping it. Text can be flipped; however, it cannot be changed while in the reversed position.

The illustration below shows objects that have been flipped.



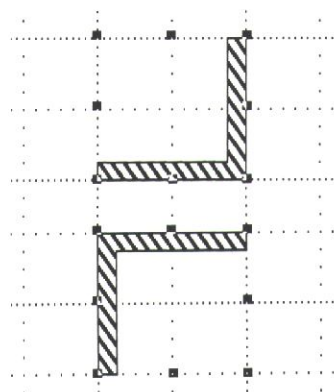
To Flip an Object Horizontally or Vertically:

- 1 ► Select the object you want to flip.



- 2 ► Open the **Edit** menu and choose **Flip Horizontal** or **Flip Vertical**.

The object flips to create a reflection.



Changing the Size and Shape of Objects in a Drawing

You can change the size and shape of objects in your drawing without having to redraw them completely. The procedures that follow tell you how to alter all types of objects except text. To alter text size, see Changing Type Style and Size, under Adding and Changing Text.

You can change the size and shape of objects in the following ways:

- Change the size and shape of objects by shrinking and stretching them.
- Smooth and unsmooth polygons and freehand shapes.
- Reshape arcs, polygons, freehand shapes, and curves.
- Create objects with curves and angles.

You can also measure the size of objects in a drawing to make sure they are precisely the size you want. You can measure as you draw, after you draw, or as you change the size of objects. You may also find it helpful to turn on rulers. For more information, see Measuring Objects and Drawings.

Shrinking and Stretching Objects

You can shrink or stretch an object to a specific size, change only its height or width, or change its height and width at the same time. For example, you can make a line longer or shorter; you can extend an arc; you can make a circle larger or smaller or turn it into an oval of any size or shape.

Shrinking some objects to a very small size may cause them to lose their relative proportions. Polygons and freehand lines are particularly susceptible to this problem. If this happens and you want to return the object to the size it was before shrinking, open the **Edit** menu and choose **Undo Last Change**.

If you want to view the entire drawing in a smaller size, see Reducing the Size of a Drawing under Changing the Size of an Entire Drawing.

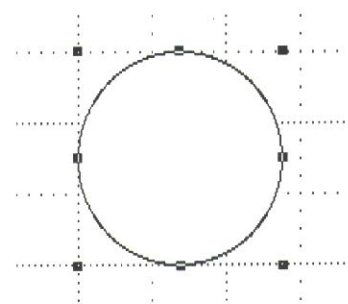
To shrink and stretch objects, you push and pull on different selection handles. The table below tells you which handles to use to achieve the desired effect.

To get this effect	Do this
Change the height of an object.	Use a center handle at the top or bottom of the object.
Change the width of an object.	Use a center handle to the left or right of the object.
Change both height and width at the same time.	Use any corner handle on the object.

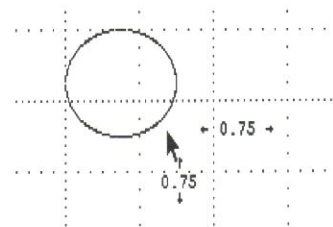
You can also shrink or stretch multiple objects by selecting more than one at a time. Each object that is selected will change size in the same direction as you shrink and stretch. For help selecting multiple objects, see Selecting Parts of a Drawing.

To Shrink or Stretch an Object:

- 1► If you want to make the object a specific size, open the **Page Layout** menu and choose **Show Size**.
- 2► Select the object you want to shrink or stretch.



- 3► Place the pointer on any handle.
- 4► Press and hold down the mouse button. Push the handle toward the center of the object to shrink the object. Pull on the handle away from the center of the object to stretch the object. If you turned on **Show Size** in step 1, the changing dimensions show on the screen. You can switch handles if you want to.



(Object didn't change? You may not have placed the pointer exactly on the handle.)

If the object moves across the drawing instead of changing size, you probably don't have the pointer on a handle. Choose **Undo Last Change** from the **Edit** menu, and start over from step 2.

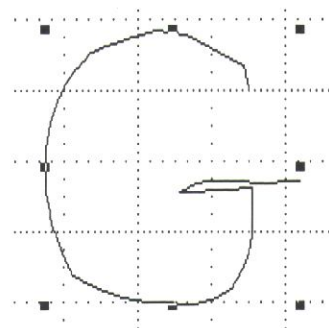
- 5► When the object is the desired size and shape, release the mouse button.

Smoothing and Unsmoothing Polygons and Freehand Shapes

Smoothing a polygon turns it into a curve, leaving its handles in the original locations. Smoothing a freehand shape also turns it into a curve. Unsmoothing any curve after it has been smoothed turns it into a polygon, whether it started as a polygon or a freehand shape. The only difference this will make to your drawing is in the placement of handles if you reshape the object: Reshaping handles are placed differently on a polygon and on a freehand shape. For more information, see *Reshaping Objects*.

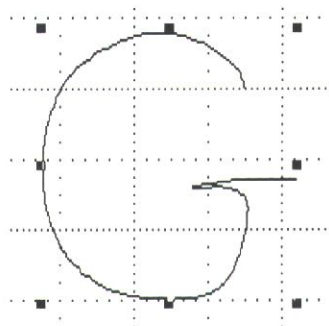
**To Smooth a
Polygon or
Freehand Shape:**

- 1 ▶ Select the object you want to smooth.



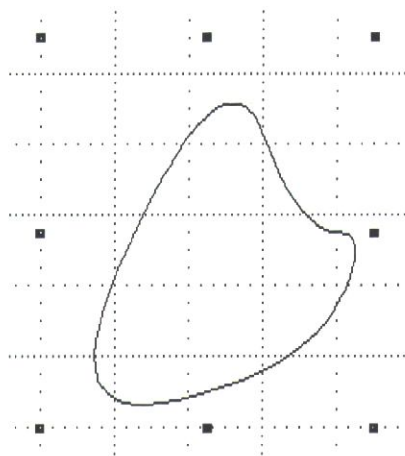
- 2 ▶ Open the **Edit** menu and choose **Smooth**.

The object is automatically smoothed, and becomes a curve.



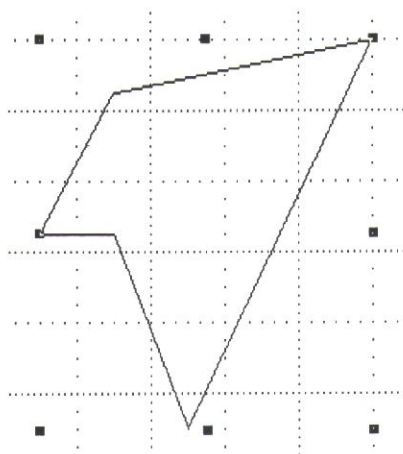
**To Unsmooth a
Curve:**

- 1 ▶ Select the object you want to unsmooth.



- 2 ► Open the **Edit** menu and choose **Unsmooth**.

The object is automatically unsmoothed and becomes a polygon.



Reshaping Objects

Reshaping allows you to improve the appearance of arcs, polygons, freehand shapes, and curves. For example, you can reshape an arc to extend it or to change its angle. Or you can reshape polygons, freehand shapes, and curves to lengthen or shorten lines, or to change or add angles and curves to the object.

When you choose the Reshape option for a selected object, its selection handles are replaced with new handles that make it easy to change the object.

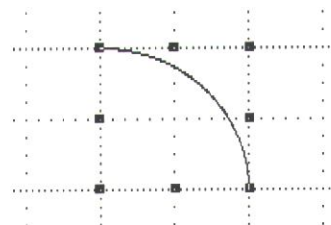
You cannot reshape groups of objects. You must reshape them one at a time.

Reshaping Arcs

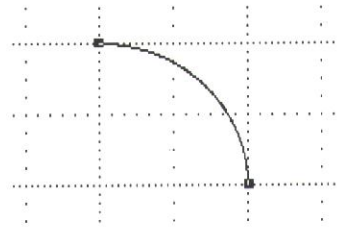
You can reshape an arc by extending either of its ends, and changing its curve.

To Reshape an Arc:

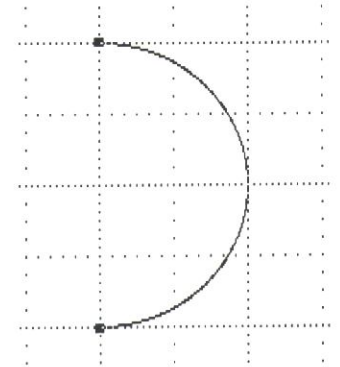
- 1 ► Select the arc you want to reshape.



- 2 ► Open the **Edit** menu and choose **Reshape Arc**.



- 3 ► Place the pointer on one of the handles, press and hold the mouse button down, and move the handle in the direction you want the arc reshaped. The handle disappears while it is being used.



- 4 ► To reshape the other end of the arc:
- Release the mouse button.
 - Place the pointer on the other handle, hold the mouse button down, and push and pull on that handle.

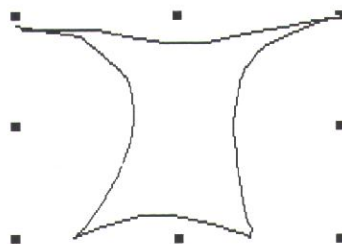
Reshaping Freehand Shapes

You can reshape a freehand shape to refine its angles and curves and add more detail. You can also smooth a freehand shape to change its angles into curves, and then reshape it. If you smooth a freehand shape, it becomes a *curve*. For more information, see *Smoothing Polygons and Freehand Shapes*, and *Reshaping Polygons and Curves*.



To Reshape a Freehand Shape:

- 1► Select the freehand shape you want to reshape.



- 2► Open the **Edit** menu and choose **Reshape Freehand**.

New selection handles replace the old selection handles on the object.



- 3► Place the pointer on one of the handles on the object, hold the mouse button down, and push or pull to reshape the object in the direction you want.



- 4► To reshape the object in another direction, repeat step 3 using different handles.

You may continue to reshape the object until you deselect it.

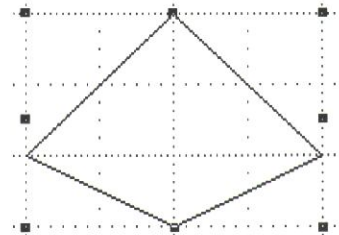
Reshaping Polygons and Curves

You can reshape a polygon, or curve. A *curve* is a polygon or freehand shape which has been smoothed. For information on smoothing, see Smoothing and Unsmoothing Polygons and Freehand Shapes.

Reshaping provides you with the ability to dramatically alter the shape of objects. When you reshape a polygon or curve, the handles on it can be selected and moved to change the shape of the object, and add more detail to it or simplify it. You can:

- Select one handle and push or pull a small portion of the object to a new position.
- Select multiple handles and change larger portions of the object at once.
- Duplicate handles to increase your ability to reshape in detail. For example, duplicating handles near the end of a curve allows you to lengthen it easily.
- Clear handles to simplify the reshaping process.

1 ► Select the polygon or curve.



**To Reshape a
Polygon or Curve:**

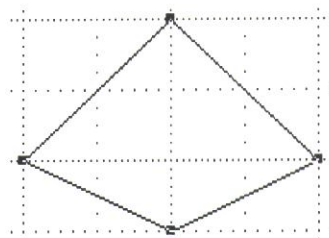


- 2► Open the **Edit** menu.

To reshape a polygon, choose **Reshape Polygon**.

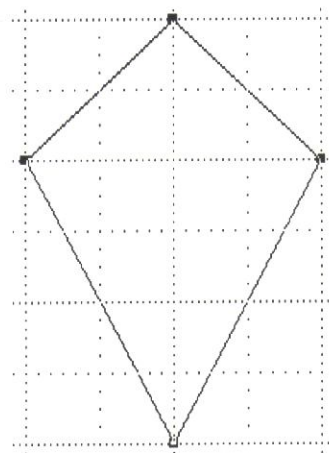
To reshape a curve, choose **Reshape Curve**.

New selection handles replace the old selection handles on the object.



- 3► Select one or more of the handles on the object. You may use any of the selection techniques described under **Selecting Parts of a Drawing**. Each handle that you select appears hollow.

- 4► Place the pointer on any of the selected handles and click and drag to reshape the object in the direction you want.

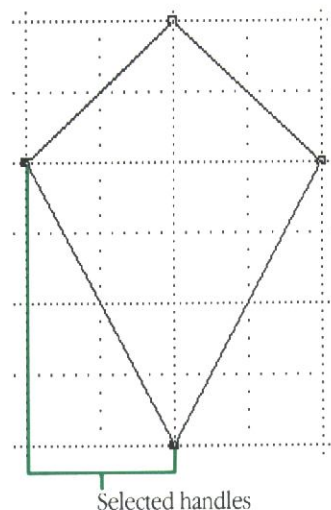


- 5► To reshape the object in another direction, repeat steps 4 and 5 using different handles.

You may continue to reshape the object until you deselect it.

To Add Handles to a Reshaped Polygon:

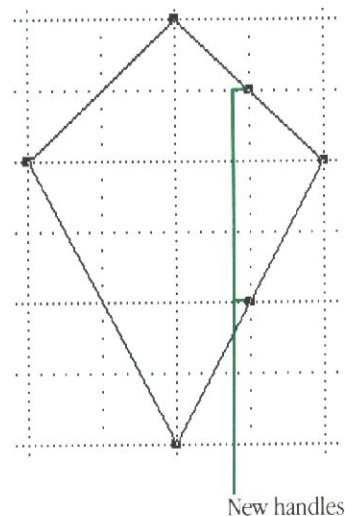
- 1► Select the polygon, open the **Edit** menu and choose **Reshape Polygon**.
- 2► Select the handle or handles you want to duplicate.



- 3► Open the **Edit** menu and choose **Duplicate Handle**.

New handles appear in the middle of the segments following each selected handle, in the direction the polygon was initially drawn.

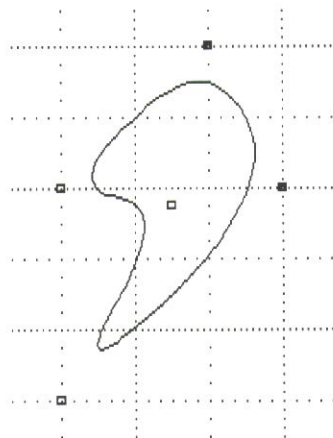
If you selected the last handle in an open polygon, the new handle is placed in the previous segment of the polygon.



- 4► Use the new handles to reshape the object.

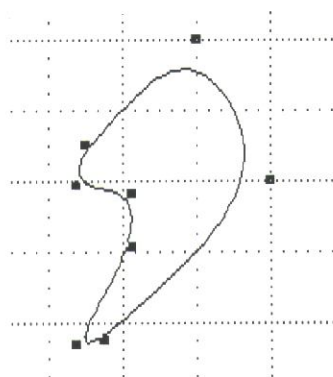
To Add Handles to a Reshaped Curve:

- 1 ► Select the curve, open the **Edit** menu and choose **Reshape Curve**.
- 2 ► Select the handle or handles you want to duplicate.



- 3 ► Open the **Edit** menu and choose **Duplicate Handle**.

For each handle that you selected, two handles appear, one to either side of the original.



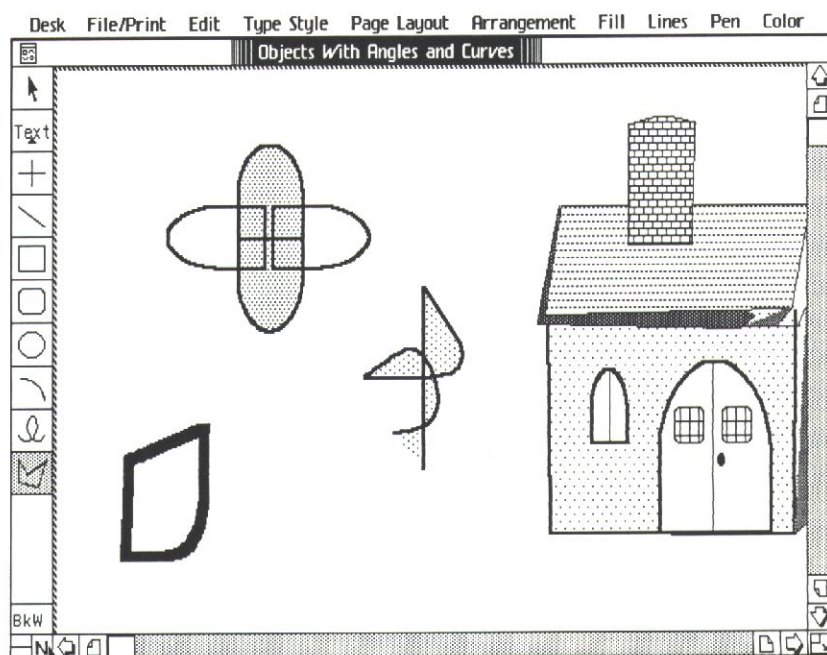
- 4 ► Use the new handles to reshape the object.

To Clear Handles from a Reshaped Polygon or Curve:

- 1 ► Select the polygon or curve.
- 2 ► Select the handle(s) that you want to clear.
- 3 ► Open the **Edit** menu and choose **Clear Handle**.
- 4 ► Use the remaining handles to reshape the object.

Creating Objects with Curves and Angles

By combining smoothing and reshaping operations with a polygon, you can create objects which contain both curves and angles, like those shown below.



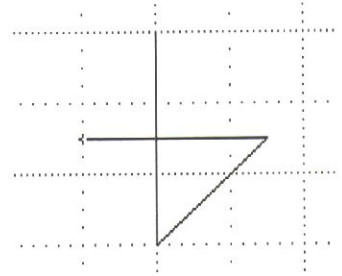
To Create an Object with Curves and Angles:

- 1► Click on the polygon symbol in the palette.
- 2► Draw the polygon as usual, until you reach the position at which you want to maintain a corner or angle.
- 3► Click the mouse button once to end the segment.
- 4► Hold down the Option key and click the mouse button again without moving the pointer.

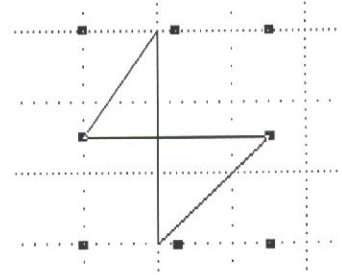
This allows you to place two points and their handles exactly on top of one another.



- 5 ► Continue to draw the polygon, repeating steps 2 and 3 for each position where you want to retain an angle.

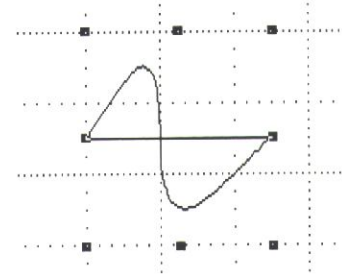


- 6 ► Complete the polygon by joining the last line to the first, or by clicking the mouse button twice without holding down the Option key.



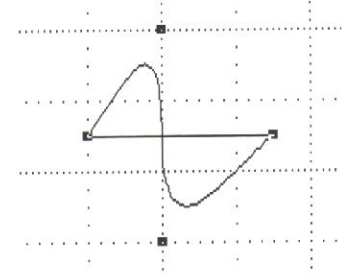
- 7 ► With the polygon selected, open the **Edit** menu and choose **Smooth**.

Angles remain where you placed the handles on top of one another.



- 1 ► Select the object.
2 ► Open the **Edit** menu and choose **Reshape Curve**.

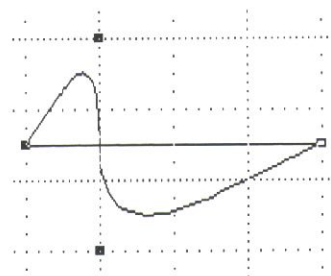
New handles appear around the object.



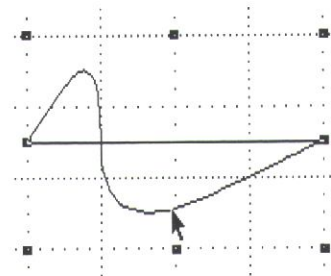
To Reshape an Object with Angles and Curves:

**To Remove a Corner
from an Otherwise
Curved Object:**

- 3► Reshape the object as you normally would. When you select a handle at any of the angles in the object, it moves as an angle.

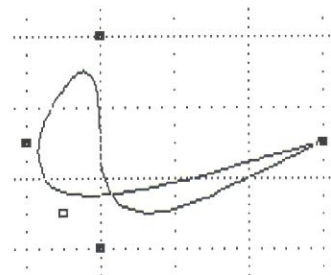


- 1► Select the object.



- 2► Open the **Edit** menu and choose **Reshape Curve**.
- 3► Hold down the Option key while you select the handle for the corner, and pull it in the desired direction.

The two handles which were placed on top of one another to form the corner are separated and a curved line is placed between them.



Measuring the Size of Objects and Drawings

Showing the Size of Objects

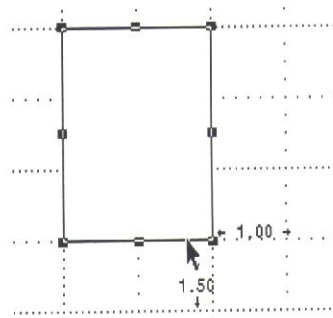
To Show the Size of an Existing Object:

Two LisaDraw features help you make objects in drawings the exact size you want them to be.

- You can show the size of an object, either as you draw it, or after you draw it. You can also measure the dimensions of grouped objects.
- You can turn on rulers along the top and left side of a drawing, so that you can see exactly where you are placing objects and how large they are.

Showing the size of objects is a quick and easy way to make sure the objects are precisely the size you want them to be. When you measure the size of objects, the measurements are shown in inches, unless you have metric or custom rulers in effect.

- 1 ► If **Show Size** is not in effect, open the **Page Layout** menu and choose **Show Size**.
- 2 ► Place the pointer either inside the object you want to measure, or on the object's edge.
- 3 ► Press and hold down the mouse button. The measurements appear.



As long as **Show Size** is in effect, you can measure the size of other objects by repeating steps 2 and 3 above.

To Show the Size of an Object as You Draw It:

- 1 ▶ Open the **Page Layout** menu and choose **Show Size**.
- 2 ▶ Click on the drawing symbol in the palette you want to use, and draw the object as usual.

As you draw, the dimensions of the object come into view at the lower right of the pointer. Push and pull on the pointer to change the size of the object while you are drawing it.

- 3 ▶ When you release the mouse button, the dimensions disappear.

As long as **Show Size** is in effect, the dimensions of any object you draw appear as you draw the object.

- 4 ▶ To redisplay the dimensions of an object:
 - a. Keep **Show Size** in effect, and select the object.
 - b. Hold the mouse button down.

The dimensions of the object reappear.

- 5 ▶ To stop measuring objects, open the **Page Layout** menu and choose **Hide Size**.

Using Rulers

You can use rulers to help measure the size of an object or a portion of your drawing as you create it, or to check the size after you draw it.

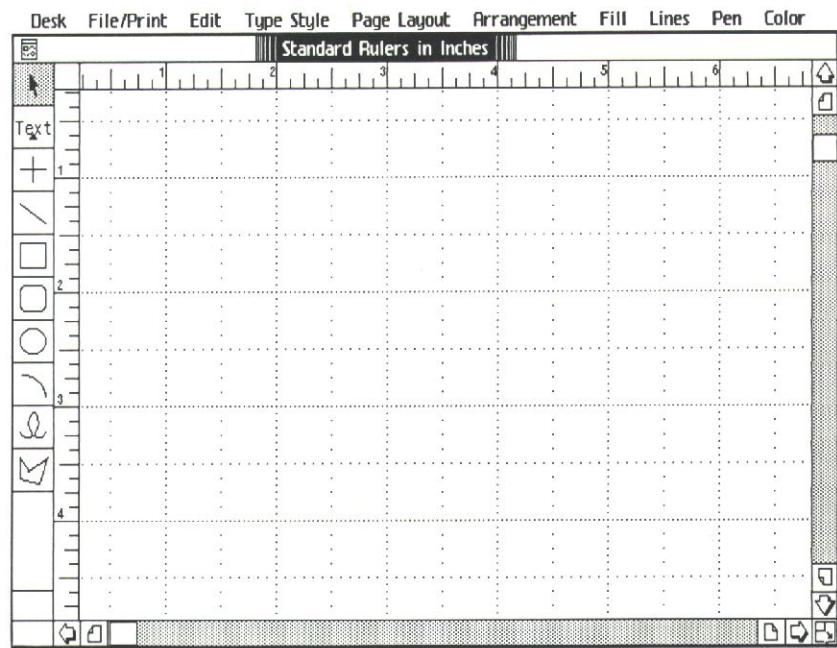
There are two types of rulers:

- Standard rulers: divided into inches or centimeters, whichever you choose.
- Custom rulers: divided into the scale you choose.

When you turn rulers on, they appear at the top and left side of the drawing area. Cross hairs—very fine reference lines in the ruler field—also appear on the rulers. The cross hairs move on the ruler to indicate where the pointer is in the drawing, and are useful guides for lining up objects at specific points. If you have auto-grid paper in effect, the cross hairs automatically line up at ruler increments. You will not be able to move the cross hairs between increments. The cross hairs may be difficult to see at first, but become more obvious as you move the mouse around.

Rulers are guides to help you draw. The rulers themselves are never printed with your drawing.

Standard rulers in inches are shown on the drawing below.



Rulers initially start measuring from the top left corner of your drawing. You can also move the rulers on a drawing, and start measuring from zero at any point.

The procedures on the following pages show you how to:

- Use Standard Rulers.
- Create Custom Rulers.
- Move the Rulers on a Drawing.

To Turn On Standard Rulers:

To Turn Off Standard Rulers:

To Change Standard Rulers from Inches to Centimeters:

Using Standard Rulers

When you begin a new drawing, standard rulers are automatically in effect (although they don't display), with major divisions in inches, and minor divisions in eighths of an inch. You can change the scale of the rulers any time you want, either to centimeters or to a scale of your own choosing. If you prefer to specify your own scale for the ruler, see Creating Custom Rulers.

You can turn rulers on and off as you wish. At times, you may want to leave the rulers off, either because you don't need them, or because you want more drawing area to show on the screen. At other times you may want to turn them on, to help you draw to scale more easily.

- 1 ► Open the **Page Layout** menu and choose **Show Standard Rulers**.

Rulers appear at the top and left side of the drawing area.

- 1 ► Open the **Page Layout** menu and choose **Hide Rulers**.

The rulers automatically disappear from the drawing area.

- 1 ► Open the **Page Layout** menu and choose **Scale of Ruler**.

The following dialog box appears.

Desk	File/Print	Edit	Type Style	Page Layout	Arrangement	Fill	Lines	Pen	Color
Scale of Ruler:									
Ruler: ☒ On ☐ Off ☒ Inch ☐ Centimeter ☒ Standard ☐ Custom Ruler Zero Point: ☒ Locked ☐ Unlocked Cancel OK									

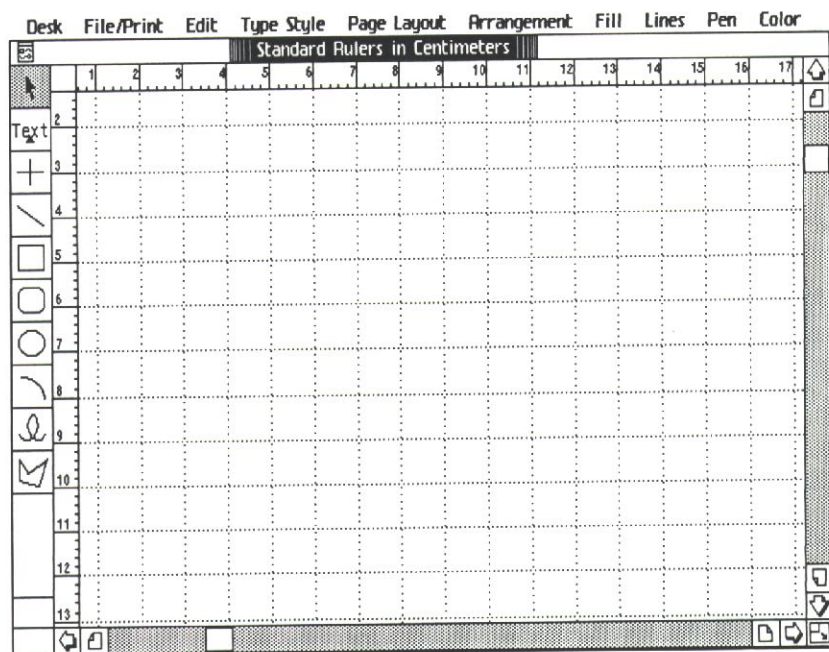
- 2 ► Click once on each of these boxes:

- On
- Centimeter

Then click OK.



The dialog box disappears and the rulers automatically appear at the top and left side of the drawing area, with divisions in centimeters.



- 3 ► To change back from centimeters to inches, repeat step 1. When the dialog box appears, click once on these boxes:

- On
- Inch

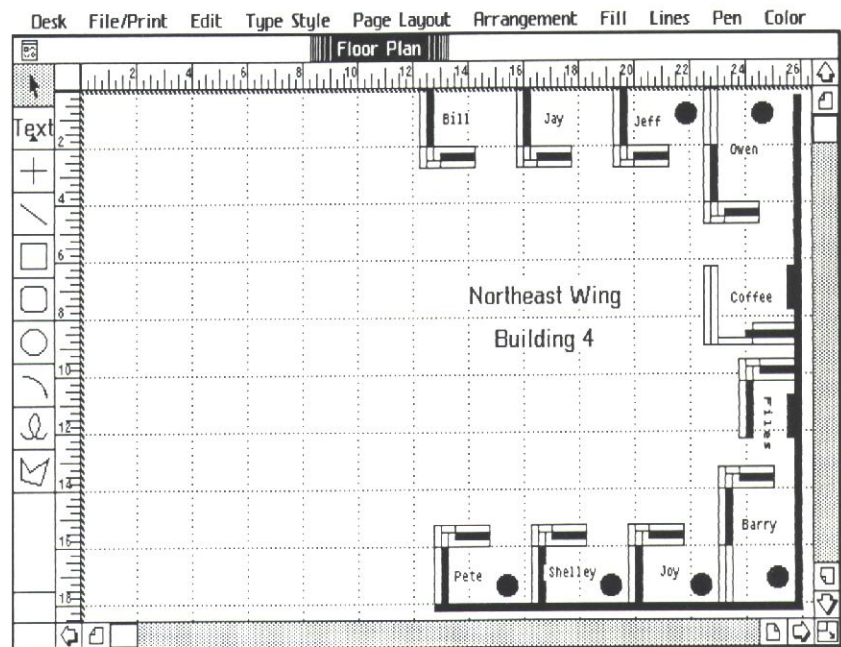
Then click OK.

Creating Custom Rulers

Custom rulers allow you to change the number, spacing, and labels of ruler divisions. Once you've designed a custom ruler for a drawing, it will be saved whenever you save the drawing. Whenever you work on that drawing, you can use the last custom ruler you designed.

For example, in drawing a floor plan, you may want major divisions in feet and minor divisions in inches. The floor plan shown below was drawn on grid paper, with the blackened options in the dialog box below in effect.

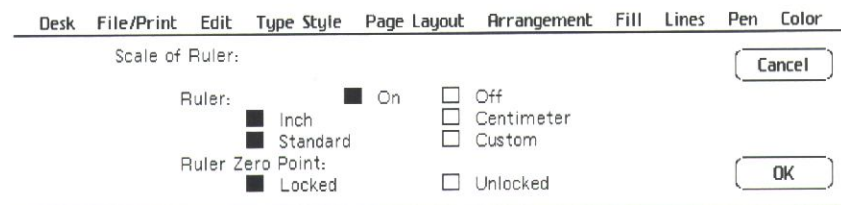
Each major division on these particular custom rulers represents 20 feet. Each minor division represents 2½ feet. Numbering increments are in 2's. The first 2 represents 20 feet, the 4 represents 40 feet, and so forth.



To Create Custom Rulers:

- 1 ► Open the **Page Layout** menu and choose **Scale of Ruler**.

The following dialog box appears.



2► Click once on each of these boxes:

- On
- Custom
- Inch or Centimeter (whichever you prefer as the base scale)

As soon as you click on the Custom box, more information appears in the dialog box.

Desk	File/Print	Edit	Type Style	Page Layout	Arrangement	Fill	Lines	Pen	Color
Scale of Ruler:									
Cancel									
Ruler: ☒ On ☐ Off									
☒ Inch ☐ Centimeter									
☐ Standard ☒ Custom									
Ruler Zero Point: ☒ Locked ☐ Unlocked									
Major Division Spacing: ☒ 1/2" ☐ 1" ☐ 1 1/2" ☐ 2"									
Number of Minor Divisions:									
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5									
☐ 6 ☒ 8 ☐ 10 ☐ 12 ☐ 16									
Numbering Increments:									
☐ 1 ☒ 2 ☐ 3 ☐ 4 ☐ 5									
☐ 6 ☐ 8 ☐ 10 ☐ 12 ☐ 25									
OK									

3► Click once on each new option you prefer.

4► Click OK. The dialog box disappears, and the options you chose are now in effect.

5► Turn off custom rulers by opening the **Page Layout** menu and choosing **Hide Rulers**.

The rulers automatically disappear from the drawing area, but you can turn them on again any time you wish.

To Turn On Custom Rulers You've Already Designed:

To Move the Zero Point of a Ruler:

- 1 ► Open the Page Layout menu and choose Show Custom Rulers.

Moving the Ruler in a Drawing

You can move the point at which rulers start measuring in a drawing by moving the “zero points.” Although the rulers still extend over the complete drawing, it is as though you picked up a ruler and set it down to start measuring at another point.

The zero points on LisaDraw rulers initially correspond to the edges of rulers you use every day—they begin at the left and at the top.

Initially, zero points are locked in these positions. Unlocking the zero points allows you to move them.

- 1 ► Open the **Page Layout** menu and choose **Scale of Ruler**.

The Scale of Ruler dialog box appears.

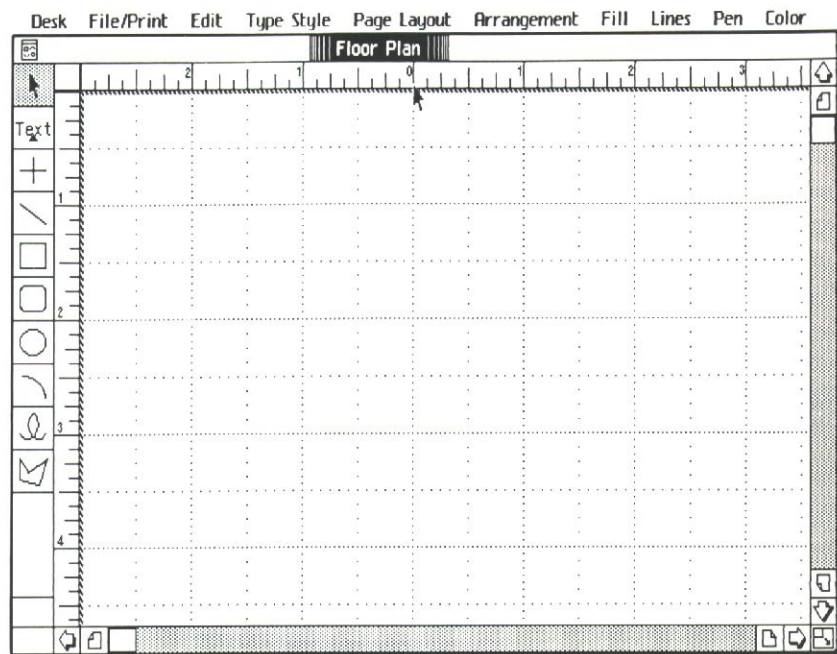
- 2 ► Click once on the following boxes:

- On
- Inch or Centimeter
- Standard or Custom
- Unlocked
- OK

Desk	File/Print	Edit	Type Style	Page Layout	Arrangement	Fill	Lines	Pen	Color
Scale of Ruler:									
Ruler: ☒ On ☐ Off ☒ Inch ☐ Centimeter ☒ Standard ☐ Custom Ruler Zero Point: ☐ Locked ☒ Unlocked Cancel OK									



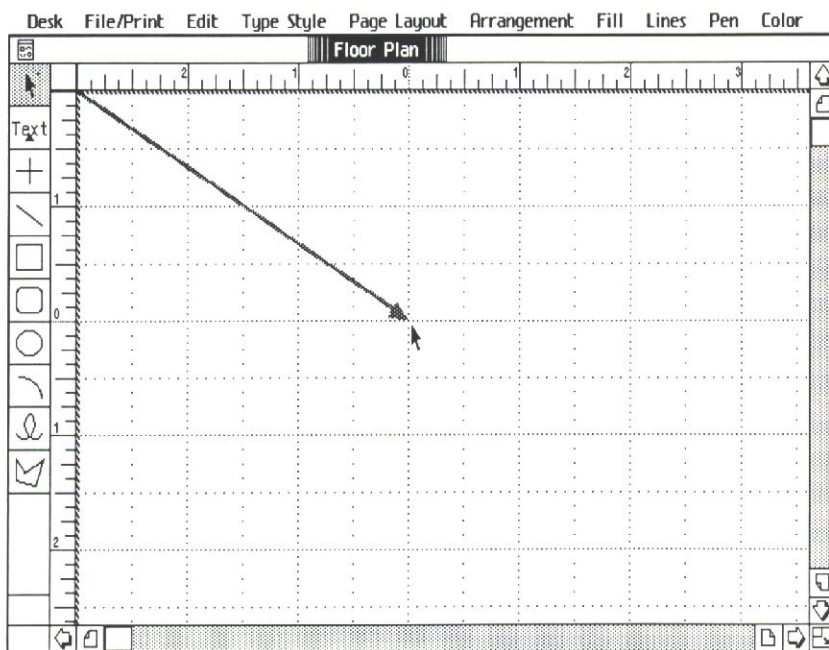
- 3► When the dialog box disappears from the screen, click at the place on the horizontal ruler where you want the new zero point to appear.



- 4► Click at the place on the vertical ruler where you want the new zero point to appear.
- 5► You can continue to reset the zero points at any time as long as you leave them unlocked in the dialog box.

To Reset Both the Horizontal and Vertical Zero Points at the Same Time:

- 1 ► Follow the first two steps above under moving the zero point of a ruler.
- 2 ► Move the pointer onto either ruler, press and hold the mouse button down, and slide the pointer diagonally across the drawing area until the zero points on both rulers are where you want them to be.
- 3 ► Release the mouse button.



To Lock the Zero Point So It Won't Be Moved Accidentally:

- 1 ► Open the **Page Layout** menu and choose **Scale of Ruler**.
- 2 ► Click once on the **Locked** box.

The zero point stays in place until you unlock it and move it again.

Changing the Size of an Entire Drawing

Changing the Size of the Drawing Area

You can change the size of a drawing in two ways:

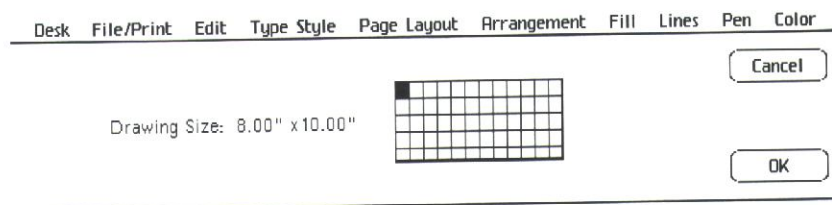
- Increase the size of the drawing area to create a larger drawing.
- Reduce the size of a drawing to see more of it in a smaller area.

In addition, you can view page divisions to see what parts of a drawing will be printed on each piece of paper.

When you begin a new drawing, the drawing area is automatically set at 8 inches wide by 10 inches long—the smallest size the drawing area can be. With that size, you can create a drawing that will fit neatly on a standard-sized piece of office paper (8½ by 11 inches). Because the LisaDraw screen is smaller than 8 by 10 inches, you will not see the entire drawing area at once. Use any of the scroll techniques to bring the various parts of the drawing area into view, or reduce the drawing to view it all on the screen at once. For information on how to scroll, see the *Lisa Office System* manual. For information on reducing the drawing, see *Reducing the Size of a Drawing*.

At times you may want to enlarge your drawing area, for example, to copy a large LisaProject chart into a LisaDraw drawing, or simply when you need a larger drawing area. You can enlarge your drawing area at any time, to any size up to 96 by 48 inches: That's 8 feet by 4 feet.

When you change the size of the drawing area, you use the dialog box shown below.



Each cell in the dialog box represents one 8 inch by 10 inch page. (If you have centimeter rulers in effect, each cell will be 20.32 cm by 25.40 cm.) The rows represent the page width (8 inches or 20.32 cm), and the columns represent the page length (10 inches or 25.40 cm) of the drawing area.

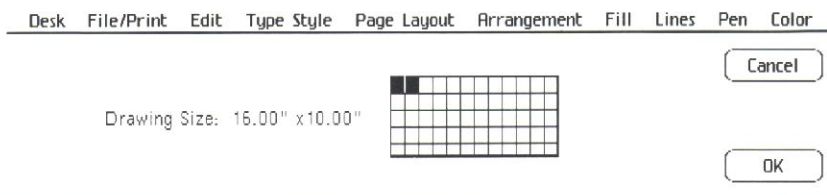
To Change the Size of the Drawing Area:

- 1 ► Open the **Page Layout** menu and choose **Drawing Size**.

The dialog box shown above automatically appears.

- 2 ► Click once on a cell adjacent to the one that is now black to enlarge the drawing area 8 by 10 inches.

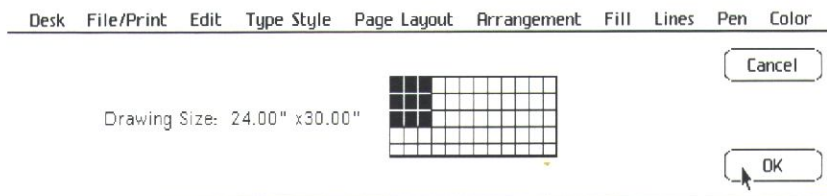
The cell you clicked on also blackens.



The dimensions listed to the left of the grid change to reflect the new size each time you click on a cell.

Clicking on white cells selects them and enlarges the drawing area. Clicking on black squares deselects them and reduces the drawing area.

- 3 ► When the dimensions are the desired size, click once in the OK box.



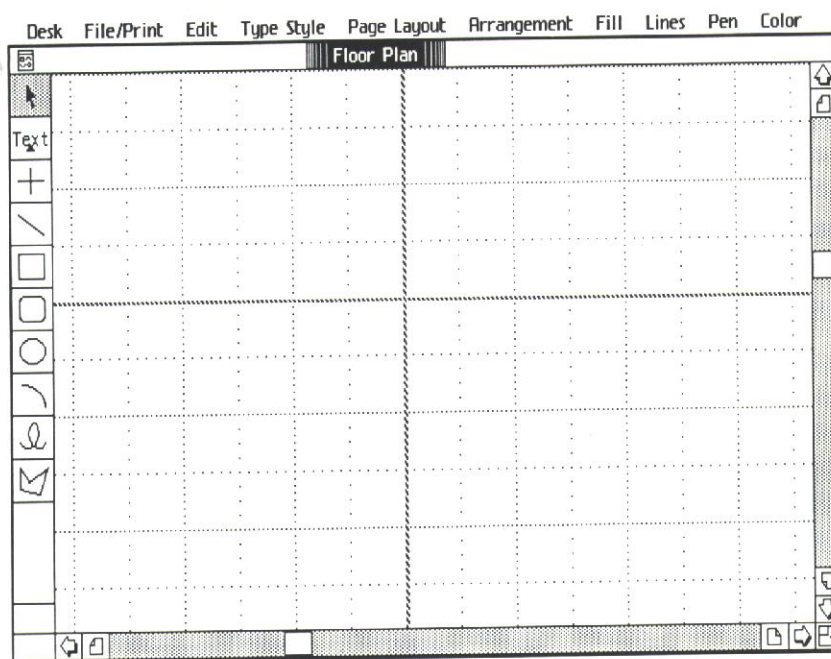
You won't immediately see any change in the drawing, however when you scroll, you'll find the drawing area is now the size you specified.

Viewing Page Divisions

Page boundary lines or *divisions* are guides to help with your drawings. Using them, you can easily locate different portions of a drawing that is larger than one page. They also help you to position your drawing on the pages and see how it will print.

You can draw as usual while page division lines are on the screen. Page division lines are never printed in an actual drawing. For information on printing a drawing larger than one page, see Printing, in the *Lisa Office System* manual.

Page divisions in a drawing are shown below.



To View the Page Divisions in a Drawing Larger than One Page:

To Remove Page Division Lines from View:

Reducing the Size of a Drawing

- 1 ► Open the **Page Layout** menu and choose **Preview Pages**.

If you are working on a new drawing, **Preview Pages** will already be in effect and there will be a check mark next to it.

When **Preview Pages** is in effect, lines dividing the drawing area into pages appear on the screen.

- 2 ► Depending on the portion of the drawing you are working on, you may not be able to see the page boundary lines right away. Use any of the scroll methods described in the *Lisa Office System* manual to bring the page boundary lines into view.

If you are using grid paper, the page division lines appear heavier than the grid lines.

- 1 ► Open the **Page Layout** menu and choose **Don't Preview Pages**.

You can reduce a drawing to fit in the window you see on your screen. While a drawing is reduced, you can make changes to it, moving or copying objects, shrinking and stretching them, changing alignments, and using all the other features available with LisaDraw. However, text should not be added to a drawing while it is reduced since it will not display until you return the drawing to its actual size.

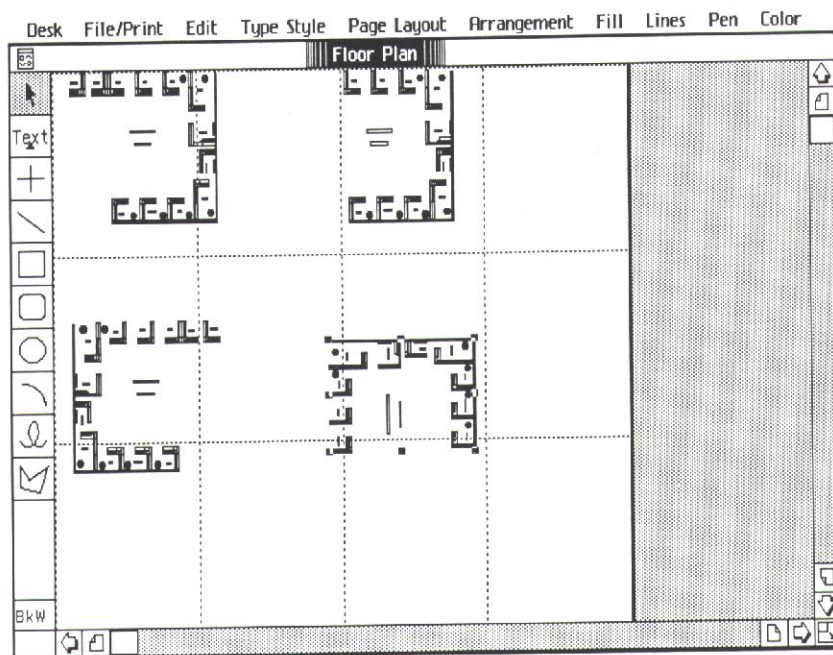
You can also use the reduction capability to locate a specific portion of a large drawing. When you select an object and then return the drawing to its normal size, the drawing automatically scrolls to display the selected item in the center of the window.

Note: You cannot print a reduction of a drawing. If you print a drawing while it is reduced on your screen, it prints its actual size.

**To Reduce a
Drawing to Fit in the
Window:**

- 1► Open the **Page Layout** menu and choose **Reduce to Fit**.

The drawing shrinks so that you can see all of it in the window on your screen.



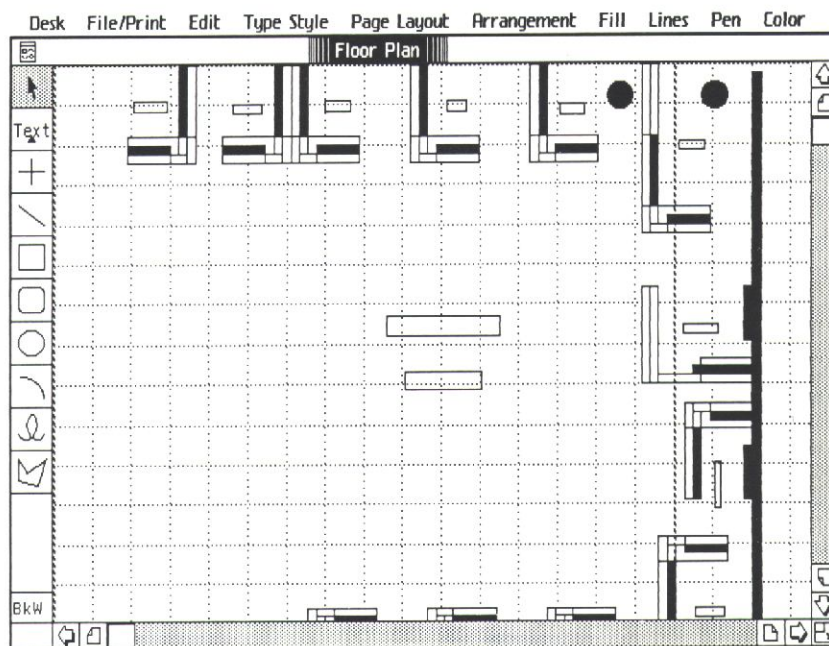
Reducing a Drawing to 70%

You can reduce a drawing to 70% of its original size so that more of it displays in the window you see on the screen. You may continue to reduce by 70% if you wish, until as much of the drawing as you need to see displays in the window.

**To Reduce a
Drawing to 70%:**

- 1 ► Open the **Page Layout** menu and choose **Reduce to 70%**.

The drawing shrinks to fit in 70% of the space it originally used.



Showing the Actual Size of a Drawing

When a drawing has been reduced, you can return it to its actual size with the simple one-step procedure shown below.

If you want to work on a particular portion of a drawing after returning it to its actual size, you can let LisaDraw scroll to it automatically by selecting an object before using the procedure. The drawing will be scrolled so that the selected object is placed in the center of the drawing window when the drawing is enlarged.

- 1 ► Open the **Page Layout** menu and choose **Show Actual Size**.

The drawing enlarges to its original size.

**To Show the Actual
Size of a Drawing
that Has Been
Reduced:**

Changing Paper Types

LisaDraw gives you a choice of three kinds of drawing paper:

- Auto-Grid paper.
- Grid paper.
- Plain paper.

Auto-Grid paper has grid lines that are useful both as a visual and as a physical drawing aid. Auto-Grid paper automatically aligns objects you draw. Use auto-grid paper for drawing anything that has to be lined up perfectly, for example, floor plans, maps, or mathematical functions. Auto-Grid paper automatically has grid lines set half an inch apart. These divisions correspond directly to the LisaDraw standard rulers, whether or not you have the rulers turned on. Standard rulers have inches for major divisions and eighths of an inch for minor divisions. Whatever you draw on auto-grid paper automatically aligns to the nearest ruler division. To change the scale of the ruler, see Using Rulers.

Grid paper has grid lines on it which provide a visual aid only. Use grid paper to help you align objects you draw. Use grid paper when you want to combine objects and text, for example, in a flowchart, organizational chart, or diagrams, or when you need guidelines to draw items very close together.

Plain paper is completely blank. Use plain paper for freehand drawings and when the spacing of elements in your drawing doesn't need to be exact.

When you begin a new drawing, auto-grid paper is automatically in effect, but you can change paper types at any time. For example, suppose you are drawing a floor plan. You can use auto-grid paper for portions of the drawing that need to be drawn to scale, and you can use grid paper to position objects or text within the grid marks.

You can also change the grid size for grid and auto-grid paper. When you change the grid size, the grid squares in your drawing increase or decrease in size.

- 1 ► Open the **Page Layout** menu and choose the paper type you want.

The paper type changes automatically.

To Change Paper Types:

To Change the Grid Size for Grid or Auto-Grid Paper:

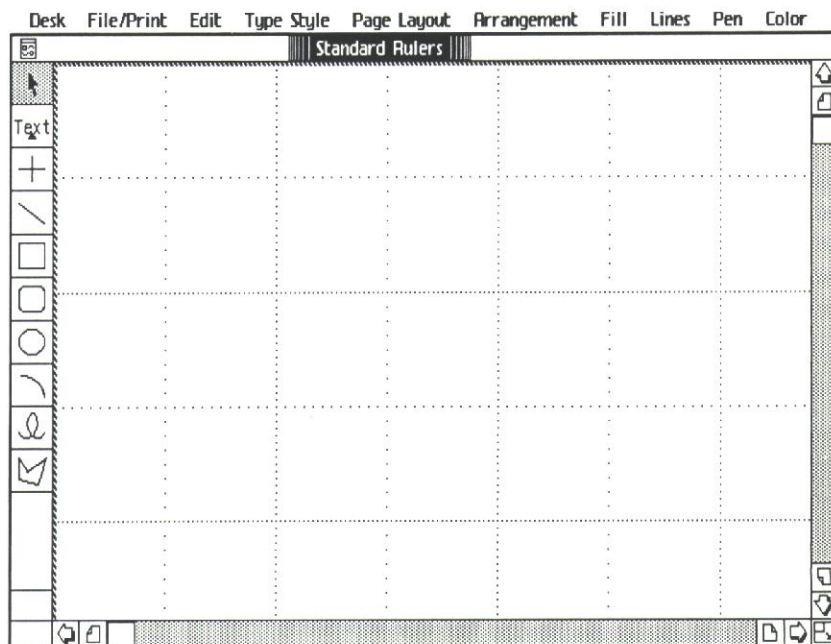
- 1 ► Open the **Page Layout** menu and choose **Scale of Ruler**.

The following dialog box appears.

Desk	File/Print	Edit	Type Style	Page Layout	Arrangement	Fill	Lines	Pen	Color
Scale of Ruler:									
Cancel									
Ruler: ☐ On ☒ Off									
☒ Inch ☐ Centimeter									
☒ Standard ☐ Custom									
Ruler Zero Point:									
☒ Locked ☐ Unlocked									
OK									

- 2 ► Click **Custom**.
- 3 ► Choose the options you want by clicking once in the box next to each option, and then clicking once on the **OK** box.

The dialog box disappears, and the grid options you chose are now in effect.



Using LisaDraw with Other Applications

Copying Information into LisaDraw

After you have created a drawing with LisaDraw, you can use all or part of the drawing with LisaWrite. In addition, you can copy information into a drawing from documents created with other applications.

You can use LisaDraw with:

- LisaGraph.
- LisaProject.
- LisaWrite.

Using LisaDraw with any of these applications involves copying information from one document to another in the same way as you would copy information from one drawing to another. If you are not familiar with the basic copy procedures, see *Moving and Copying* earlier in this chapter.

When you copy information into LisaDraw from another application, it is always centered around the point you select in the drawing.

Plain paper should be in effect in the LisaDraw drawing to prevent accidentally changing the shape and position of the objects which are copied in. For more information, see *Changing Paper Types*.

Once you copy something into LisaDraw from another application, you can add text, graphics, and change the new objects in any of the ways you can change a LisaDraw drawing.

Copying from LisaGraph You can copy an entire graph into a LisaDraw drawing.

Copying from LisaProject You can copy an entire LisaProject chart into a LisaDraw drawing.

Copying from LisaWrite You can copy a single line of text from a LisaWrite document into a LisaDraw drawing. You can also copy any LisaDraw objects which have been placed in a LisaWrite document back into LisaDraw.

To Copy Information from Other Applications to LisaDraw:

- 1▶ Select the part of the graph, chart, or line of text that you want to copy.
- 2▶ Open the **Edit** menu and choose **Copy**.
The selected information is placed on the Clipboard.
- 3▶ Open the drawing into which you want to copy the information by double-clicking on its icon.
- 4▶ Select a location in the drawing for the copied information (if you need help, see Moving and Copying).
- 5▶ Open the **Edit** menu and choose **Paste**.

The information from the Clipboard is copied into the drawing.

Copying Information from LisaDraw to LisaWrite

You can copy any part of a LisaDraw drawing into LisaWrite. After it is copied, the drawing becomes a separate “paragraph” in your LisaWrite document. You cannot edit the contents of this paragraph, but you can move it within the document. You can also adjust the left and right margins of the drawing and change paragraph alignment. If you make the margins smaller than the size of the drawing, LisaWrite only displays as much of the drawing as will fit between the margins.

Note: You cannot edit text that is part of the drawing, even if it looks just like LisaWrite text. However, a single line of LisaDraw text pasted into a LisaWrite document can be edited.

If you need to change a portion of the drawing, copy it back into LisaDraw, make the desired changes, and copy the new version into LisaWrite.

To Copy Information from LisaDraw to LisaWrite:

- 1▶ Select the part of the LisaDraw drawing that you want to copy.
- 2▶ Open the **Edit** menu and choose **Copy**.
The selected information is placed on the Clipboard.
- 3▶ Open the LisaWrite document into which you want to copy the information by double-clicking on its icon.
- 4▶ Select a location in the document for the copied information (if you need help, see the *LisaWrite* manual).
- 5▶ Open the **Edit** menu and choose **Paste**.

The information from the Clipboard is copied into the document.

Shortcuts and Alternatives

Double-Clicking on Icons

To Start a New Drawing:

The information on the following pages describes shortcuts and alternative methods for performing LisaDraw operations. These alternatives have the same results as the methods described throughout the earlier part of this chapter. When you are familiar with using LisaDraw, you can choose whichever method is most convenient for you.

When you want to open a drawing, you can double-click on icons instead of selecting the icon and choosing menu items. You can do this to start a new drawing or to open an existing drawing.

- 1▶ Open the disk by double-clicking on its icon.
- 2▶ Tear off a piece of LisaDraw stationery by double-clicking on the LisaDraw paper icon.
- 3▶ Type a name for the new drawing.
- 4▶ Double-click on the new drawing's icon to open the drawing.

To Open an Existing Drawing:

- 1▶ Open the disk or diskette by double-clicking on the icon.
- 2▶ If the drawing is in a folder, double-click on the folder's icon to open the folder.
- 3▶ Double-click on the drawing's icon to open the drawing.

Apple Key

Using the Apple key provides you with two types of shortcuts in LisaDraw:

- You can select some menu items directly from the keyboard, without using the mouse.
- You can draw several objects from the same palette symbol without activating the symbol a second time with the mouse.

Choosing Menu Items Without the Mouse

Some menu items on the **Edit** and **Type Style** menus are accompanied by an Apple symbol and a letter. This means that you can hold down the Apple key while typing the letter to choose a menu item rather than opening the menu and choosing the item with the mouse.

To Select the Entire Drawing:

To Copy the Current Selection to the Clipboard:

To Duplicate the Current Selection:

To Paste the Current Contents of the Clipboard at the Selected Point in the Drawing:

To Cut the Current Selection from the Drawing:

To Bold Text:

To Italicize Text:

To Make Text Plain:

To Underline Text:

To Use the Apple Key to Draw Several Objects with the Same Drawing Symbol:

Shortcuts on the Edit menu:

Hold down the Apple key and type *A*.

Hold down the Apple key and type *C*.

Hold down the Apple key and type *D*.

Hold down the Apple key and type *V*.

Hold down the Apple key and type *X*.

Shortcuts on the Type Style menu:

Hold down the Apple key and type *B*.

Hold down the Apple key and type *I*.

Hold down the Apple key and type *P*.

Hold down the Apple key and type *U*.

Drawing Several Objects with the Same Drawing Symbol

To draw an object, you must activate a drawing symbol in the palette by moving the pointer to it and pressing the mouse button once. To draw several objects with the same drawing symbol, you can either repeat this step each time you draw a new object, or you can use the Apple key to reactivate the drawing symbol.

- 1► Click on the drawing symbol in the palette that you want to use.
- 2► Move the pointer into the drawing area and draw the first object as usual.



Deleting Text

To Remove (Delete) Existing Characters from a Line of Text:

- 3 ► Hold down the Apple key.

The drawing symbol automatically darkens again, indicating that it is activated. Press and hold down the mouse button, and draw the second object. You can release the Apple key any time after you start drawing.

From now on, you can draw as many objects of any size with that drawing symbol by holding down the Apple key when you press the mouse button to draw each object.

In addition to using Cut to delete text, you can use the Backspace key.

- 1 ► Click on the text symbol in the palette.
- 2 ► Move the pointer just to the right of the last character you want to remove.
- 3 ► Click once to set an insertion point.
- 4 ► Press the Backspace key once for each character you want to remove.

Or

- 1 ► Click on the text symbol in the palette.
- 2 ► Select the text you want to delete.
- 3 ► Press the Backspace key.

The selected text is removed from the line of text.

Changing Line Thickness

You can change the line thickness by working directly with the line/fill box. Here's how:

- 1 ► Place the pointer in the line/fill box and click the mouse button once.

The current line thickness appears in the line/fill box.

- 2 ► Open the **Lines** menu and choose the thickness you want.

Changing Line Shade and Pattern

Fixing Common Problems

Selecting

You can also change the line shade or pattern by working directly with the line/fill box. Here's how:

- 1 ► Place the pointer in the line/fill box and click the mouse button once.

The current line shade or pattern appears in the line/fill box.

- 2 ► Open the **Pen** menu and choose the shade or pattern you want.

The information on the following pages describes some common LisaDraw problems and solutions. If you experience problems with the Lisa itself, see the *Lisa Office System* manual.

Problem

Selection handles don't appear when you are trying to select an object.

Solution

- 1 ► Make sure the change symbol in the palette is active. If it is not, click on it to activate it.
- 2 ► If the object is a line or non-solid object (filled with no shade), place the tip of the pointer exactly on the line and click once.
If the object is a solid object (filled with a shade), place the pointer on the edge of the object or inside it and click once.
- 3 ► Open the **Arrangement** menu and check to see if the objects are grouped. To select an individual object that is currently grouped, you must ungroup it first.

Problem

Can't select multiple lines of text.

Solution

You can't select multiple lines of text with the text symbol.

- 1 ► Click on the change symbol.
- 2 ► Click once on the first line of text.
- 3 ► Press and hold down the Shift key and click once on each additional line of text you want to select.

Object Changes Shape Instead of Moving

Object Moves Instead of Changing Shape

Object Prints Without Color

Problem

You are trying to move an object by selecting and dragging, and its size or shape changes instead.

Solution

Be sure the pointer is not on a handle.

- 1► Choose **Undo Last Change** from the **Edit** menu to return the object to its original shape.
- 2► Select the object.
- 3► Place the pointer on the edge of the object and drag the object to its new position.

Problem

You are trying to change an object's size or shape by shrinking or stretching, and it moves instead.

Solution

Be sure the pointer is on a handle.

- 1► Choose **Undo Last Change** from the **Edit** menu to return the object to its original position.
- 2► Select the object.
- 3► Place the pointer on a handle, press and hold down the mouse button, and push or pull to shrink or stretch the object to its new size or shape. The handle will disappear when you press the mouse button if you have the pointer positioned on it correctly.

Problem

You have set a color for an object to print on a color printer, and it prints only in black and white.

Solution

Make sure the object is filled with a white shade from the **Fill** menu. If the object is shaded "None," it cannot print with a color.

Not Enough Handles When Reshaping an Object

Problem

You are reshaping a polygon, freehand shape, or curve, and you need additional handles to push and pull.

Solution

While reshaping, select one or more handles on the object, open the **Edit** menu and choose **Duplicate Handle**.

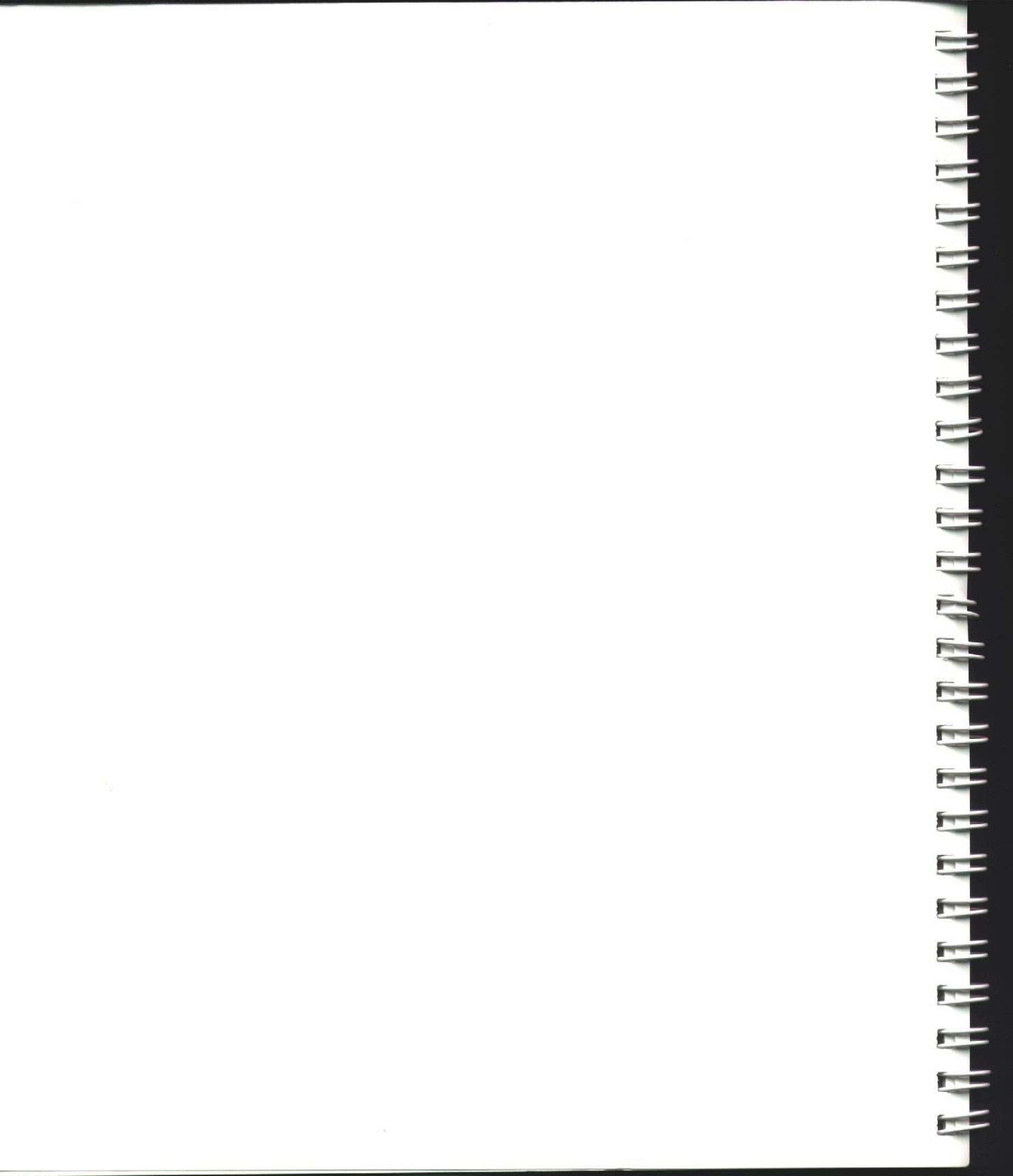
Too Many Handles When Reshaping an Object

Problem

You are reshaping a polygon, freehand shape, or curve, and you need fewer handles so that the new shape of the object is simplified as you push and pull.

Solution

While reshaping, select the handles on the object that you want to remove, open the **Edit** menu and choose **Clear Handle**.



Chapter 3

LisaDraw Reference



LisaDraw

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Introduction

This chapter is an overview and summary of LisaDraw. It tells you about LisaDraw without emphasizing instructions. Refer to Chapter 2 for complete step-by-step instructions on the tasks you can perform with LisaDraw.

You use LisaDraw by creating a drawing, and then using menus and the mouse to help you alter the drawing to your specifications.

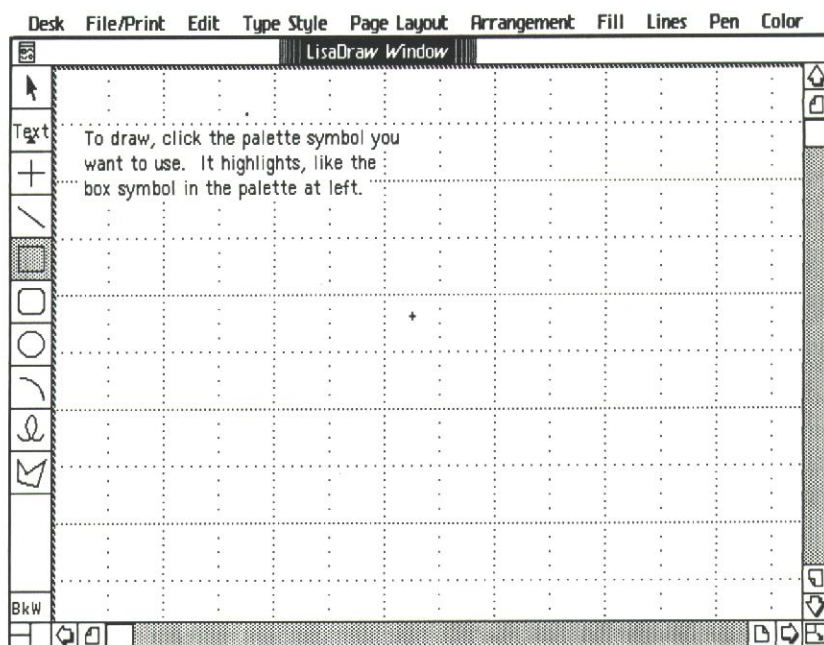
Drawing and Writing

Creating a drawing is a combination of drawing the basic shapes and entering any text you want, and then customizing different parts of the drawing to create exactly the effect you want.

Drawing Objects

When you want to draw an object, you first click the palette symbol you want to use, then select the position on the drawing paper where you want the object to begin, and draw by pressing and holding down the mouse button and dragging it in the direction you want the object drawn.

The one exception to this is when you want to draw a polygon. With polygons, after you activate the symbol in the palette, use a combination of click, drag, and release for each side of the polygon. Double-click at the end of the last line in the polygon.



Entering Text

When you want to enter text in your drawing, click on the text symbol in the palette, select the position in the drawing where you want to enter it, and type.

As an alternative, if you want to center text inside another object, begin by clicking on the change symbol. Then select the object that you will place the text in, and type.

The Palette Symbols

Here's when to use each of the palette symbols:

- Use the *change* symbol to select objects in a drawing when you want to change them.
- Use the *text* symbol to add text to a drawing or edit existing text.
- Use the *horizontal/vertical* line symbol to draw horizontal and vertical lines, with or without arrows.
- Use the *diagonal* line symbol to draw diagonal lines, with or without arrows.
- Use the *box* symbol to draw squares and rectangles with square corners.
- Use the *rounded-corner* box symbol to draw squares and rectangles with rounded corners.
- Use the *circle* symbol to draw circles and ovals.
- Use the *arc* symbol to draw arcs.
- Use the *freehand* symbol to draw freehand lines and shapes.
- Use the *polygon* symbol to draw objects with two or more sides.

Changing Objects and Text

When you want to change an object, you first select it, and then perform the operation you want. There are two types of changes you can make to objects:

- Changes made by choosing an item from a LisaDraw menu.
- Changes made by using the pointer and working with the object on the screen.

For detailed information about the choices you have on menus, see *LisaDraw Menus*, later in this chapter.

There are two types of changes you can make directly on the screen with the pointer: You can move objects by selecting and dragging them, and you can shrink and stretch objects.

When you want to move an object by selecting and dragging, just select the object, place the pointer on its edge or inside it, and drag the object across the screen.

When you want to shrink and stretch an object, select it, place the pointer on one of the selection handles, and push or pull to change the size and shape.

Setting Default Characteristics Before You Draw

When you start a drawing and begin drawing objects, a number of characteristics are already set:

- Lines and edges of objects are thin and dark.
- The inside of objects drawn with the circle, box, and rounded-corner box symbols are all filled with a white shade (the lightest pattern available). This makes them solid objects.
- The inside of objects drawn with the arc, freehand, and polygon symbols are patterned “none,” and treated as non-solid objects. For more information on solid and non-solid objects, see Guidelines for Changing the Appearance of Objects, under Changing the Appearance of Objects, in Chapter 2.
- The only colors that are set to print are black and white: Lines and edges of objects will print black, while the inside of objects will print white. The dark portion of any patterns you choose will print black.
- The type style for text is 12 Point Modern.
- Text will center around the point you select in the drawing.

You may change any of these default settings before you start drawing.

Two boxes at the bottom of the palette help you determine the current settings when you click on a palette symbol:

- The **line/fill** box shows the line thickness and pattern, and the fill pattern.
- The **color** box shows the initials of the colors that will print. The left initial shows the line/pattern color, and the right initial shows the background, or fill color.

Setting Line Defaults When you change the default settings for lines and edges of other objects, the default is changed for all the symbols in the palette. Click on one of the drawing symbols, and then choose the settings you want:

- From the **Lines** menu, choose one of the four line thicknesses shown at the top. (The initial setting is the thinnest line.)
- From the **Pen** menu, choose any shade or pattern you want lines to have. (The initial setting is the darkest available pattern, which looks black.) Some patterns won't show up well if you have a very thin line.

After you change these settings, all objects you draw will use the same line thickness and pattern until you change the setting again. Existing objects are not affected.

Setting Fill Defaults When you change the default fill settings for the inside of objects, you must change each symbol in the palette individually. Click on one of the drawing symbols, and then choose the setting you want:

- From the **Fill** menu, choose any fill shade or pattern you want this type of object to have. (The initial setting for circles, squares, and round-cornered boxes is the lightest available pattern—white. The initial setting for arcs, freehand shapes, and polygons is no pattern, or “none.”)

After you change fill pattern settings, all objects you draw with the same palette symbol will use the new pattern until you change the setting again. Existing objects are not affected.

Setting Color Defaults If you have a color printer, you may want to change the default color settings.

The **line/pattern color** designates the color that will print for lines, edges of objects, text, and dark part of patterns. When you click on one of the palette symbols and then change the line/pattern color, it changes for all the symbols in the palette.

To change the line/pattern color, click on one of the drawing symbols in the palette, open the **Color** menu and choose **Line/Pattern Color**, and then choose the color that you want.

The **background color** designates the color that will print for the inside of objects patterned white, the area surrounding text, and the light portions of any patterns. The background color for each type of drawing symbol in the palette must be changed individually.

To change the background color, click on one of the drawing symbols in the palette, open the **Color** menu and choose **Background Color**, and then choose the color you want. Remember, this changes the background color for objects drawn only with the palette symbol that is active at the time you change the setting.

Setting Text Defaults You may change both the default type style and alignment settings.

To change text defaults, click on the text symbol in the palette, and then change these settings:

- From the **Type Style** menu, choose the face, size, and style you want text to be entered with.
- From the **Arrangement** menu, choose the alignment you want text to have—left, right, or center.

LisaDraw Menus

File/Print Menu

Set Aside Everything Returns all windows to their icons without saving the contents.

Set Aside "your drawing" Returns the current drawing to its icon without saving the contents.

Save & Put Away Saves the contents of the drawing, closes the window, and returns the icon to its original location.

Save & Continue Saves the contents of the drawing and leaves the window open.

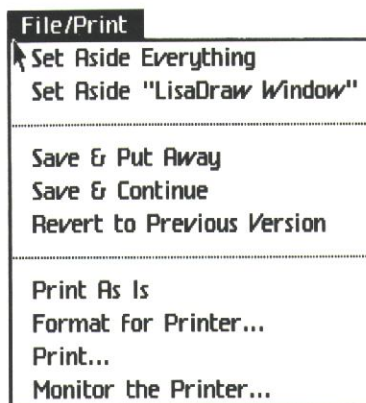
Revert to Previous Version Returns the drawing to its state as of the last time you saved it.

Print As Is Prints one copy of the drawing.

Format for Printer Sets formats in the drawing based on the printer that will be used.

Print Prints the drawing using the settings from the Format for Printer dialog box. You may choose to print multiple copies.

Monitor the Printer Shows the status of the document being printed.



Edit Menu

Undo Last Change Restores the drawing to its state before the last operation.

Cut Cuts the current selection from the drawing and places it on the Clipboard.

Copy Copies the current selection onto the Clipboard.

Paste Pastes whatever is on the Clipboard into the drawing at the current selection point.

Clear Clears current selection from the drawing area.

Duplicate Duplicates the current selection.

Select All Selects entire drawing.

Make Uppercase Changes selected text to uppercase letters.

Make Lowercase Changes selected text to lowercase letters.

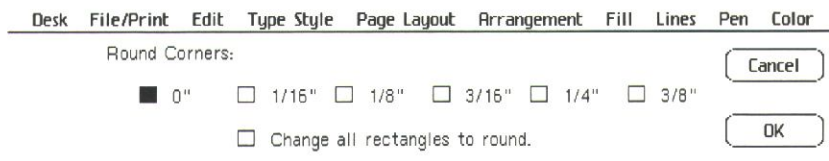
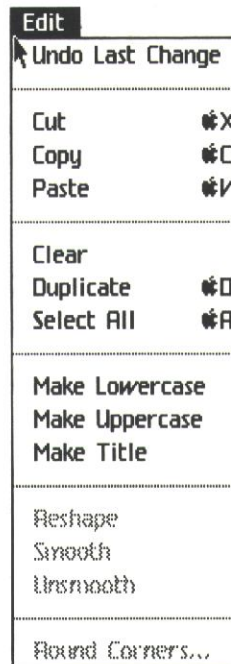
Make Title Capitalizes the first letter of each selected word.

Reshape Moves handles onto an arc, freehand line, or polygon so that the object can be reshaped.

Smooth Smooths a polygon or freehand shape and makes it a curved object.

Unsmooth Turns a curve (created by smoothing a polygon or freehand shape) into a polygon.

Round Corners Gives choice of corner radius for squares and rectangles. The following dialog box appears for you to fill in:



Type Style Menu

Plain Text Removes all customized styles from text.

Underline Customizes text with underlining.

Bold Customizes text with bolding.

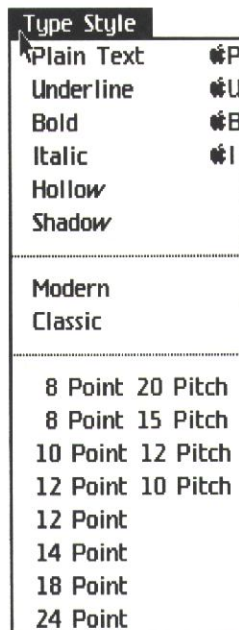
Italic Customizes text with italics.

Hollow Customizes text with hollow.

Shadow Customizes text with shadow effect.

Classic/Modern Displays selected text in this typeface.

Point/Pitch Uses this point size and pitch for selected text.



Page Layout Menu

Show Standard Rulers Displays standard inch or metric rulers.

Show Custom Rulers Displays custom inch or metric rulers.

Hide Rulers Removes rulers from the drawing.

Show Size Shows precise dimensions of objects as you draw them and when you select them.

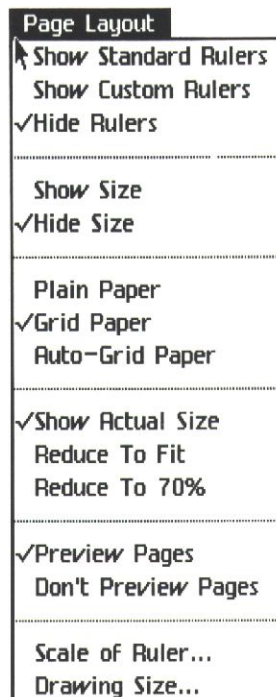
Hide Size Turns off Show Size.

Plain Paper Displays drawing paper with no grid lines.

Grid Paper Displays drawing paper with grid lines.

Auto-Grid Paper Displays drawing paper with magnetic grid lines.

Show Actual Size Shows actual size of a drawing.



Reduce to Fit Reduces a drawing to fit in the drawing window.

Reduce to 70% Reduces a drawing to 70%.

Preview Pages Displays the boundaries between pages when a drawing is larger than one page.

Don't Preview Pages Turns off the page boundaries.

Scale of Ruler Changes ruler format through the following dialog box. Click on each setting that you want to use. The lower portion of the dialog box appears only after you check Custom.

Desk	File/Print	Edit	Type Style	Page Layout	Arrangement	Fill	Lines	Pen	Color
Scale of Ruler:									
Ruler: ☐ On ☒ Off ☒ Inch ☐ Centimeter ☒ Standard ☐ Custom Ruler Zero Point: ☒ Locked ☐ Unlocked									
									Cancel
									OK

Drawing Size Changes number of pages in a drawing through the following dialog box. Click on a white square to the right to enlarge the drawing horizontally. Click on a white lower square to enlarge the drawing vertically. Click on a dark square to decrease the size of the drawing.

Desk	File/Print	Edit	Type Style	Page Layout	Arrangement	Fill	Lines	Pen	Color
Drawing Size: 8.00" x 10.00"									
									
									Cancel
									OK

Arrangement Menu

Bring to Front Brings selected objects to front of drawing.

Send to Back Sends selected objects to back of drawing.

Paste in Front Pastes contents of the Clipboard in front of selected objects.

Paste Behind Pastes contents of the Clipboard behind selected objects.

Group Objects Makes selected objects into one object.

Ungroup Objects Allows previously grouped objects to be separated.

Lock Objects Locks selected objects into place.

Unlock Objects Allows previously locked objects to be changed or moved to another location.

Align Left Sides Aligns selected objects by their left sides.

Align Centers Aligns selected objects by their horizontal centers.

Align Right Sides Aligns selected objects by their right sides.

Align Tops Aligns selected objects by their tops.

Align Middles Aligns selected objects by their vertical centers.

Align Bottoms Aligns selected objects by their bottoms.

Align to Auto-Grid Aligns selected objects to the auto-grid, when the auto-grid is turned on.

Rotate Left Rotates the current selection 90 degrees to the left.

Rotate Right Rotates the current selection 90 degrees to the right.

Flip Horizontal Reverses a drawing horizontally.

Flip Vertical Reverses a drawing vertically.

Arrangement

Bring to Front
Send to Back
Paste in Front
Paste Behind

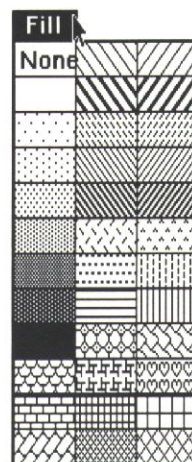
Group Objects
Ungroup Objects
Lock Objects
Unlock Objects

Align Left Sides
Align Centers
Align Right Sides
Align Tops
Align Middles
Align Bottoms
Align to Auto-Grid

Rotate Left
Rotate Right
Flip Horizontal
Flip Vertical

Fill Menu

Indicates shades and patterns available to fill the insides of objects.



Lines Menu

Indicates line thicknesses available in LisaDraw.

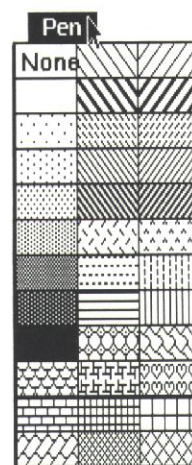
No Arrows Removes arrows from selected line. Displays arrows available in LisaDraw.

Switch Arrows Switches the arrow from one end of a line to the other.



Pen Menu

Indicates shades and patterns available for lines and edges of objects.



Color Menu

Background Color Indicates that a background color is being chosen for the inside of objects.

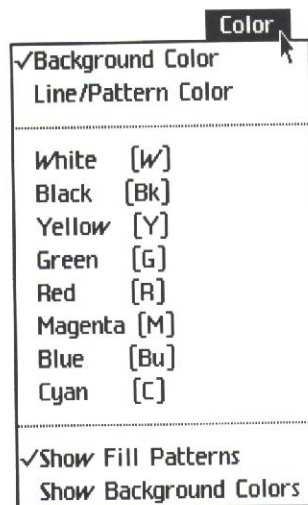
Line/Pattern Color Indicates that a color is being chosen for lines, text, and the dark portion of patterns.

White and other colors

Indicates colors available with LisaDraw: White, Black, Yellow, Green, Red, Magenta, Blue, and Cyan.

Show Fill Patterns Displays patterns indicated on the Fill menu in objects and surrounding text.

Show Background Colors Displays initials of background color in objects and surrounding text, replacing fill patterns



Apple Key

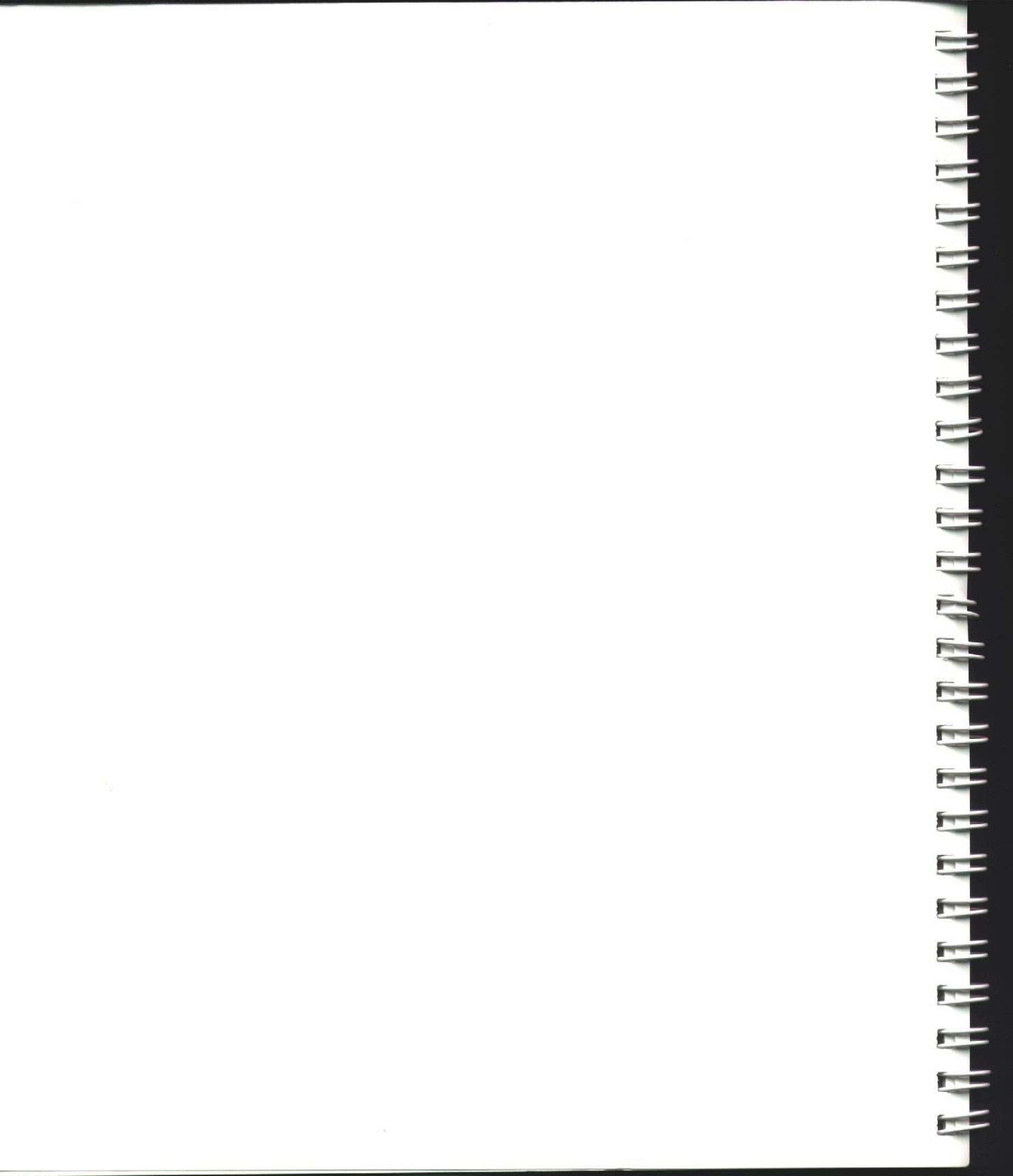
With LisaDraw, you can use the Apple key to choose certain menu items.

Five items on the Edit menu and four items on the Type Style menu show an apple and a letter next to them. In addition to using the pointer to open the menus to choose these items, you can choose the items by holding down the Apple key and typing the keyboard letter associated with them. For example, Duplicate has an apple and the letter D associated with it. This means that instead of opening the Edit menu and choosing Duplicate, you can duplicate an object by holding down the Apple key and typing the D.

It doesn't matter whether you choose a menu item with the pointer or with the Apple key. Use whichever method you prefer.

The following list shows the characters that can be used in combination with the Apple key in LisaDraw:

-  **A** Select All of Document
-  **B** Bold
-  **C** Copy
-  **D** Duplicate
-  **I** Italics
-  **P** Plain Text
-  **U** Underline
-  **V** Paste
-  **X** Cut
-  **.** Terminate



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100 Days

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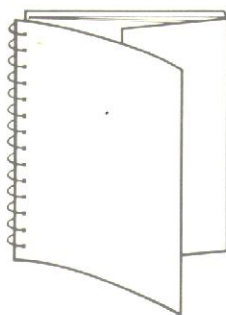
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This book's binding lets it lie flat while you're working with your Lisa. When you're using the book, keep the wraparound endflap tucked inside the back cover. To make it easy to spot the title when the book's on a shelf, fold the flap inside the front cover and set the book on the shelf with the title visible.



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LisaDraw



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